

Balanceskema for "COWI Balanceret Mitchell, 5 borde" (vandring = "norske princip")

Skifteplan indtastet 20161029

(Mellemregnet i ikke-printet matrix til højre:)

(LibreOffice: husk Ctrl-Shift-Enter ved matrix-formler!)

$B = L * \text{transp}(L) + 5 * M = \text{balance}$ (10x10-matrix)

$M = 10 \times 10$ -matrix af 1'er når par mødes

$L = 10 \times 5$ -matrix af Par-Led hvor diagonal slettes manuelt = par mod sig selv

| Modstander i sæt | | Led i sæt (-1=Ø) Balancetal (nettomodstand) mod par nr | | | | | | | | | | Sum | | | | | | | | | |
|---------------------|---|--|---|---|-----|----|----|----|----|----|---|-----|---|---|----|---|---|---|---|----|----|
| 1 | 2 | 3 | 4 | 5 | Par | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | |
| | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 0 | 2 | 2 | 2 | 2 | 20 | |
| (Fed = 1. runde) | | | | | 2 | 1 | 1 | 1 | -1 | 1 | 3 | | 1 | 1 | 1 | 2 | 0 | 4 | 4 | 4 | 20 |
| Opslag af modst.: | | | | | 3 | 1 | -1 | 1 | 1 | 1 | 3 | 1 | | 1 | 1 | 2 | 4 | 0 | 4 | 4 | 20 |
| (Kun for vandrepar) | | | | | 4 | 1 | 1 | 1 | 1 | -1 | 3 | 1 | 1 | | 1 | 2 | 4 | 4 | 0 | 4 | 20 |
| | | | | | 5 | 1 | 1 | -1 | 1 | 1 | 3 | 1 | 1 | 1 | | 2 | 4 | 4 | 4 | 0 | 20 |
| 1 | 5 | 4 | 3 | 2 | 6 | -1 | -1 | -1 | -1 | -1 | 0 | 2 | 2 | 2 | 2 | | 3 | 3 | 3 | 3 | 20 |
| 5 | 4 | 3 | 2 | 1 | 7 | -1 | -1 | -1 | 1 | -1 | 2 | 0 | 4 | 4 | 4 | 3 | | 1 | 1 | 1 | 20 |
| 4 | 3 | 2 | 1 | 5 | 8 | -1 | 1 | -1 | -1 | -1 | 2 | 4 | 0 | 4 | 4 | 3 | 1 | | 1 | 1 | 20 |
| 3 | 2 | 1 | 5 | 4 | 9 | -1 | -1 | -1 | -1 | 1 | 2 | 4 | 4 | 0 | 4 | 3 | 1 | 1 | | 1 | 20 |
| 2 | 1 | 5 | 4 | 3 | 10 | -1 | -1 | 1 | -1 | -1 | 2 | 4 | 4 | 4 | 0 | 3 | 1 | 1 | 1 | | 20 |

| Pars antal møder (M-matrix) | | | | | | | | | | |
|-----------------------------|---|---|---|---|---|---|---|---|---|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 3 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 4 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 5 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 6 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 7 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 8 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 9 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 10 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |

Vandring = sædvanlige for par, men kort længere væk:

* 1 bordnummer højere hver runde for vandrende par
(= 4 bordnumre lavere = som i "norske princip")

* 2 bordnumre lavere hver runde for kortene
(som i Turneringsleder bogens "norske princip")

| | |
|--------------|--------------|
| Middelværdi: | 2,22 |
| Spredning: | 1,38 |
| Skævhed s = | 0,621 |
| Max = | 4 |
| Min = | 0 |
| Qc = | 72,15 |
| Qf = | 74,68 |

Bedre end Bofors Mitchells elendige s=1,53, men stadig ikke god balance.

Qc = 100 / (1 + s^2)

Qf stemmer med [pjms' bedste](#)

Det sikrer optimal samlet oversidderkvalitet (og kvalitet i "2 stærke par"-model uden oversidder); standardvandring (1 op/ned) er dårligere.

Mindst ringe valg af oversidder er par 2-5 (el. 7-10) – de giver: **Qf1 = 67,50**, d4 = 1,60, s = 0,77

Vælg absolut ikke par 1 eller 6 – de giver: **Qf1 = 61,36**, d4 = 1,79, s = 0,87

Men spil hellere enten en ren Mitchell med 2 vindere (NS/ØV hver for sig) eller en 1-vinders med flere runder.

Se f.eks. på næste side hvordan forlængelse af netop ovenstående plan med en "hævnrunde" giver langt bedre balance.

Balanceskema for "COWI Forlænget Bal. Mitchell, 5 borde, 6 runder"

Skifteplan indtastet 20161029

(Mellemregnet i ikke-printet matrix til højre:)

(LibreOffice: husk Ctrl-Shift-Enter ved matrix-formler!)

$B = L^*transp(L) + 5*M = balance$ (10x10-matrix)

$M = 10x10$ -matrix af pars antal møder

$L = 10x6$ -matrix af Par-Led hvor diagonal slettes manuelt = par mod sig selv

| Modstander i sæt | | | | | | Led i sæt (-1=ØV) | | | | | | | | | | Balancetal (nettomodstand) mod par nr | | | | | | | | | | Sum |
|------------------|---|---|---|---|---|-------------------|----|----|----|----|----|----|---|---|---|---------------------------------------|---|---|---|---|---|----|----|--|--|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | Par | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | |
| | | | | | | 1 | 1 | 1 | -1 | 1 | 1 | | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 3 | 3 | 24 | | | | |
| | | | | | | 2 | 1 | 1 | 1 | 1 | -1 | 1 | 2 | | 2 | 2 | 2 | 4 | 3 | 3 | 3 | 3 | 24 | | | |
| | | | | | | 3 | -1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | | 2 | 2 | 3 | 3 | 3 | 4 | 3 | 24 | | | |
| | | | | | | 4 | 1 | -1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | | 2 | 3 | 4 | 3 | 3 | 3 | 24 | | | |
| | | | | | | 5 | 1 | 1 | -1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | | 3 | 3 | 3 | 3 | 4 | 24 | | | |
| | | | | | | 6 | -1 | -1 | -1 | -1 | 1 | -1 | 3 | 4 | 3 | 3 | 3 | | 2 | 2 | 2 | 2 | 24 | | | |
| | | | | | | 7 | -1 | 1 | -1 | -1 | -1 | -1 | 3 | 3 | 3 | 4 | 3 | 2 | | 2 | 2 | 2 | 24 | | | |
| | | | | | | 8 | -1 | -1 | -1 | 1 | -1 | -1 | 4 | 3 | 3 | 3 | 3 | 2 | 2 | | 2 | 2 | 24 | | | |
| | | | | | | 9 | 1 | -1 | -1 | -1 | -1 | -1 | 3 | 3 | 4 | 3 | 3 | 2 | 2 | 2 | | 2 | 24 | | | |
| | | | | | | 10 | -1 | -1 | 1 | -1 | -1 | -1 | 3 | 3 | 3 | 3 | 4 | 2 | 2 | 2 | 2 | | 24 | | | |

| Pars antal møder (M-matrix) | | | | | | | | | | |
|-----------------------------|---|---|---|---|---|---|---|---|---|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 1 |
| 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 1 |
| 3 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 1 |
| 4 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 1 |
| 5 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 |
| 6 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 7 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 8 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 9 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 10 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |

Baseret på Worger-substitution i/med denne vanding:

- * 1 bordnummer højere hver runde for vandrende par (bortset fra til/fra hævnrunden = 1. runde her)
- * 2 bordnumre lavere hver runde for kortene (bortset fra når de rammes af Worger-subst m. sæt 6)
- * 2 bordnumre højere hver runde for Worger-subst. = sæt 6

Det sikrer bl.a. at bedste oversidder bliver de faste par.

| | |
|--------------------|--------------|
| Middelværdi: | 2,67 |
| Spredning: | 0,67 |
| Skævhed s = | 0,250 |
| Max = | 4 |
| Min = | 2 |
| Qc = | 94,12 |
| Qf = | 97,06 |

Dvs. klart bedre end alle afkortede Howell 5 borde 8 runder når der ikke er oversidder (men ej med).

$Qc = 100 / (1 + s^2)$

Bedste valg af oversidder er par 1-5 (= de faste par): **Qf1 = 83,72**, d4 = 1,10, s = 0,44
 Dårligere valg med par 6-10 (vandrende oversidder): **Qf1 = 76,60**, d4 = 1,34, s = 0,55

Men ved oversidder bør man så vidt muligt hellere spille fx **COWI afkortet Howell, 5 borde, 8 runder (TeamPlus)** (s = 0,37, s1(par9) = 0,43) for at undgå at et uheldigt par rammes af dobbelt oversidning i ekstra mange spil (kun 16 af 24 spil spilles i 6*4-spils mod 20 af 24 i 8*3).

Balanceskema for "COWI Balanceret Mitchell, 6 borde" (vandring = hvilebords med kortdeling)

Skifteplan ændret 20161009:

(Mellemregnet i ikke-printet matrix til højre:)

(LibreOffice: husk Ctrl-Shift-Enter ved matrix-formler!)

Nye drej => oversidder optimal for par 6

$B = L^*transp(L) + 6*M = balance$ (12x12-matrix)

$M = 12x12$ -matrix af 1'er når par mødes

L = 12x6-matrix af Par-Led hvor diagonal slettes manuelt = par mod sig selv

| Modstander i sæt | | | | | | | Balancetal (nettomodstand) mod par nr | | | | | | | | | | | | Sum | | | | | | |
|------------------|---|---|---|---|---|-----|---------------------------------------|----|----|----|----|----|---|---|---|----|----|----|-----|---|---|---|---|---|----|
| 1 | 2 | 3 | 4 | 5 | 6 | Par | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | | | | | | |
| | | | | | | 1 | 1 | 1 | -1 | 1 | 1 | 1 | | 4 | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 4 | 0 | 4 | 30 |
| | | | | | | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | | 4 | 4 | 4 | 4 | 0 | 2 | 2 | 2 | 2 | 2 | 30 |
| | | | | | | 3 | 1 | 1 | 1 | -1 | 1 | 1 | 2 | 4 | | 2 | 2 | 2 | 2 | 0 | 4 | 4 | 4 | 4 | 30 |
| | | | | | | 4 | 1 | 1 | 1 | 1 | -1 | 1 | 2 | 4 | 2 | | 2 | 2 | 2 | 4 | 4 | 0 | 4 | 4 | 30 |
| | | | | | | 5 | 1 | -1 | 1 | 1 | 1 | 1 | 2 | 4 | 2 | 2 | | 2 | 2 | 4 | 0 | 4 | 4 | 4 | 30 |
| | | | | | | 6 | -1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 2 | 2 | | 2 | 4 | 4 | 4 | 4 | 0 | 4 | 30 |
| | | | | | | 7 | -1 | -1 | -1 | -1 | -1 | -1 | 2 | 0 | 2 | 2 | 2 | | 4 | 4 | 4 | 4 | 4 | 4 | 30 |
| | | | | | | 8 | -1 | -1 | -1 | 1 | -1 | -1 | 4 | 2 | 0 | 4 | 4 | 4 | 4 | | 2 | 2 | 2 | 2 | 30 |
| | | | | | | 9 | -1 | 1 | -1 | -1 | -1 | -1 | 4 | 2 | 4 | 4 | 0 | 4 | 4 | 2 | | 2 | 2 | 2 | 30 |
| | | | | | | 10 | -1 | -1 | -1 | -1 | 1 | -1 | 4 | 2 | 4 | 0 | 4 | 4 | 4 | 2 | 2 | | 2 | 2 | 30 |
| | | | | | | 11 | -1 | -1 | 1 | -1 | -1 | -1 | 0 | 2 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | 2 | | 2 | 30 |
| | | | | | | 12 | 1 | -1 | -1 | -1 | -1 | -1 | 4 | 2 | 4 | 4 | 4 | 0 | 4 | 2 | 2 | 2 | 2 | | 30 |

| Par mødes? (M-matrix) | | | | | | | | | | | | |
|-----------------------|---|---|---|---|---|---|---|---|---|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 7 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

Binært til NLP-solver...

Afprøv fortegnsskift:

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

Nyeste (20161009):

| 1 | 2 | 3 | 4 | 5 | 6 | |
|---|----|----|----|----|----|---|
| 1 | 1 | 1 | -1 | 1 | 1 | 1 |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | 1 | 1 | 1 | -1 | 1 | 1 |
| 4 | 1 | 1 | 1 | 1 | -1 | 1 |
| 5 | 1 | -1 | 1 | 1 | 1 | 1 |
| 6 | -1 | 1 | 1 | 1 | 1 | 1 |

$Q_c = 100 / (1 + s^2)$

Qf stemmer med pjms' bedste

Middelværdi: 2,73
 Spredning: 1,29
Skævhed s = 0,471
 Max = 4
 Min = 0
 Qc = 81,82
Qf = 84,00

Bofors Mitchell standard er elendig:

$s = 1,476$, min..max = -2..8

| 1 | 2 | 3 | 4 | 5 | 6 | |
|---|----|----|----|----|----|----|
| 1 | 1 | 1 | -1 | 1 | -1 | -1 |
| 2 | -1 | 1 | 1 | -1 | 1 | -1 |
| 3 | -1 | -1 | 1 | 1 | -1 | 1 |
| 4 | -1 | 1 | -1 | -1 | 1 | 1 |
| 5 | 1 | -1 | 1 | -1 | -1 | 1 |
| 6 | 1 | 1 | -1 | 1 | -1 | -1 |

Maj-vers. med bord 2-6 drejet 1. runde:

| 1 | 2 | 3 | 4 | 5 | 6 |
|----|----|----|---|----|----|
| 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | -1 | 1 | 1 | 1 | 1 |
| 1 | 1 | -1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | -1 | 1 |
| 1 | 1 | 1 | 1 | 1 | -1 |
| -1 | 1 | 1 | 1 | 1 | 1 |

Samme s som oktober-version, men dårligere mht. oversidder (kun Qf1=78,49 for par 10, ej 6).

Bedste valg af oversidder er par 6 (bord 6) eller 10: **Qf1 = 78,49**, d4 = 1,557, s = 0,56
 Par 1, 3, 4, 9, 11 eller 12 er dårligere: Qf1 = 75,00, d4 = 1,632, s = 0,61
 Par 2 eller 7 er dårligst: Qf1 = 71,81, d4 = 1,698, s = 0,66

Balanceskema for "COWI Forlænget BGSB-Mitchell, 6 borde, 7 runder" (BGSB = Balanceret Groot Schemaboek)

Skifteplan designet af ukd 20161115

(Mellemregnet i ikke-printet matrix til højre:)

(LibreOffice: husk Ctrl-Shift-Enter ved matrix-formler!)

$B = L * \text{transp}(L) + 6 * M = \text{balance}$ (12x12-matrix)

$M = 12 \times 12$ -matrix af pars antal møder

L = 12x7-matrix af Par-Led hvor diagonal slettes manuelt = par mod sig selv

| Modstander i sæt | | Til Qf-beregning: | | | | | | | Balancetal (nettomodstand) mod par nr | | | | | | | | | | | | Sum |
|------------------------|---|-------------------|---|---|---|---|-----|----|---------------------------------------|----|----|----|----|----|----|---|----|----|----|--|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | Par | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | |
| | | | | | | | | -1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | 35 |
| (Fed = 1. runde, info) | | | | | | | | 1 | -1 | 1 | 1 | 1 | 1 | 1 | | | | | | | 35 |
| Opslag af modstander: | | | | | | | | 3 | 1 | 1 | 1 | 1 | 1 | -1 | 1 | | | | | | 35 |
| (Kun for vandrepar) | | | | | | | | 4 | 1 | 1 | 1 | 1 | -1 | 1 | 1 | | | | | | 35 |
| Bord 1 & 6 deler kort | | | | | | | | 5 | 1 | 1 | 1 | -1 | 1 | 1 | 1 | | | | | | 35 |
| i 3. runde, ej andre | | | | | | | | 6 | 1 | 1 | -1 | 1 | 1 | 1 | 1 | | | | | | 35 |
| 1 | 4 | 2 | 6 | 3 | 5 | 1 | | 7 | 1 | -1 | -1 | -1 | -1 | -1 | -1 | | | | | | 35 |
| 5 | 2 | 4 | 3 | 6 | 1 | 2 | | 8 | -1 | 1 | -1 | -1 | -1 | -1 | -1 | | | | | | 35 |
| 6 | 1 | 5 | 4 | 2 | 3 | 3 | | 9 | -1 | -1 | -1 | -1 | -1 | 1 | -1 | | | | | | 35 |
| 3 | 5 | 1 | 2 | 4 | 6 | 4 | | 10 | -1 | -1 | -1 | -1 | 1 | -1 | -1 | | | | | | 35 |
| 4 | 6 | 3 | 5 | 1 | 2 | 5 | | 11 | -1 | -1 | -1 | 1 | -1 | -1 | -1 | | | | | | 35 |
| 2 | 3 | 6 | 1 | 5 | 4 | 6 | | 12 | -1 | -1 | 1 | -1 | -1 | -1 | -1 | | | | | | 35 |

| Pars antal møder (M-matrix) | | | | | | | | | | | | |
|-----------------------------|---|---|---|---|---|---|---|---|---|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 1 | 1 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 1 | 1 |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 1 | 1 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 1 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 1 |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 |
| 7 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 1 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 1 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |

Bedste valg af oversidder er par 6. Dermed undgås kortdeling.
 For par 4-7, 9 eller 12: **Qf1 = 92,50**, d41 = 1,10, s1 = 0,35
 For par 1-3, 8, 10-11: Qf1 = 90,69, d41 = 1,22, s1 = 0,38

| | |
|--------------|-------|
| Middelværdi: | 3,18 |
| Spredning: | 0,57 |
| Skævhed s = | 0,181 |
| Max = | 5 |
| Min = | 3 |
| Qc = | 96,84 |
| Qf = | 98,26 |

Med bedste valg af oversidder fås derfor en smule bedre balance hvis man i stedet spiller den optimerede afkortede Howell 9 runder. Med oversidder bør 9-runderen dog under alle omstændigheder vælges – hvis det overhovedet er muligt i turneringsplanen.

Med f.eks. 9*3 spil sidder ingen i så fald over mere end 3 spil, og alle spiller mindst 24 spil. Med 7*4 spil af den forlængede med oversidder vil ét uheldigt par komme til at sidde over i hele 8 spil og dermed kun spille 20 spil.

Skifteplan lavet af ukd ud fra den hollandske 6-bords Mitchell (Scheveningen-12 side 5 i Groot Schemaboek jfr. pjms) med kaotisk vandring og kortdeling kun i 2 sidste runder, men stærkt permuteret, omnummereret og Worger-forlænget.

| Ru | B1 | B2 | B3 | B4 | B5 | B6 |
|----|--------|--------|--------|--------|--------|--------|
| 1 | 1-7 7 | 8-2 2 | 9-3 6 | 10-4 5 | 11-5 4 | 12-6 3 |
| 2 | 7-1 1 | 2-9 5 | 3-12 2 | 4-8 3 | 5-11 7 | 6-10 6 |
| 3 | 1-9 2 | 2-12 1 | 3-8 4 | 4-10 7 | 5-7 6 | 6-11 2 |
| 4 | 1-10 3 | 2-11 6 | 3-7 5 | 4-9 4 | 5-8 1 | 6-12 7 |
| 5 | 1-12 4 | 2-7 3 | 3-9 7 | 4-11 1 | 5-10 2 | 6-8 5 |
| 6 | 1-11 5 | 2-8 7 | 3-10 1 | 4-12 6 | 5-9 3 | 6-7 4 |
| 7 | 1-8 6 | 2-10 4 | 3-11 3 | 4-7 2 | 5-12 5 | 6-9 1 |

Kortdeling 3. runde

NB: Samme lave skævhed (s=0,18) som den gamle hvilebordsbaserede, men en smule bedre i både 2-stærke-par-modellen og Bussemakermodellen.

Balanceskema for "COWI Balanceret Mitchell, 7 borde 20161004" (simpler Mitchell-vandring, kort 2 opad hver runde)

(20161004: kort 2 borde opad i st.f. 1 => optimal også v. vilkårlig oversidder)

(Mellemregnet i ikke-printet matrix til højre:)

(LibreOffice: husk Ctrl-Shift-Enter ved matrix-formler!)

Plan rev. 20161004

L = 14x7-matrix af Par-Led

B = L*transp(L) + 7*M = balance (14x14-matrix)

M = 14x14-matrix af 1'er når par mødes

hvor diagonal slettet manuelt = par mod sig selv

| Række til Qf-beregning: | | 3 3 3 3 3 3 3 3 3 3 3 4 4 4 | | | | | | | | | | | | | | 42 | | | | | | | |
|-------------------------|-----|-----------------------------|----------------------------------|--|--|--|--|--|---------------------------------------|--|--|--|--|-----|--|----|--|--|--|--|--|--|-----|
| Modstander i givet sæt | | Led i sæt nr (-1=ØV) | | | | | | | Balancetal (nettomodstand) mod par nr | | | | | | | | | | | | | | Sum |
| 1 2 3 4 5 6 7 | Par | 1 2 3 4 5 6 7 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 | | | | | | | | | | | Sum | | | | | | | | | |
| | 1 | -1 1 1 1 1 1 1 | 3 3 3 3 3 3 3 0 4 4 4 4 4 4 | | | | | | | | | | | 42 | | | | | | | | | |
| | 2 | 1 1 1 1 -1 1 1 | 3 3 3 3 3 3 3 4 0 4 4 4 4 4 | | | | | | | | | | | 42 | | | | | | | | | |
| | 3 | 1 -1 1 1 1 1 1 | 3 3 3 3 3 3 3 4 4 0 4 4 4 4 | | | | | | | | | | | 42 | | | | | | | | | |
| | 4 | 1 1 1 1 1 -1 1 | 3 3 3 3 3 3 3 4 4 4 0 4 4 4 | | | | | | | | | | | 42 | | | | | | | | | |
| | 5 | 1 1 -1 1 1 1 1 | 3 3 3 3 3 3 3 4 4 4 4 0 4 4 | | | | | | | | | | | 42 | | | | | | | | | |
| | 6 | 1 1 1 1 1 1 -1 | 3 3 3 3 3 3 3 4 4 4 4 4 0 4 | | | | | | | | | | | 42 | | | | | | | | | |
| | 7 | 1 1 1 -1 1 1 1 | 3 3 3 3 3 3 3 4 4 4 4 4 4 0 | | | | | | | | | | | 42 | | | | | | | | | |
| | 8 | 1 -1 -1 -1 -1 -1 -1 | 0 4 4 4 4 4 4 3 3 3 3 3 3 3 | | | | | | | | | | | 42 | | | | | | | | | |
| | 9 | -1 -1 -1 -1 1 -1 -1 | 4 0 4 4 4 4 4 3 3 3 3 3 3 3 | | | | | | | | | | | 42 | | | | | | | | | |
| | 10 | -1 1 -1 -1 -1 -1 -1 | 4 4 0 4 4 4 4 3 3 3 3 3 3 3 | | | | | | | | | | | 42 | | | | | | | | | |
| | 11 | -1 -1 -1 -1 -1 1 -1 | 4 4 4 0 4 4 4 3 3 3 3 3 3 3 | | | | | | | | | | | 42 | | | | | | | | | |
| | 12 | -1 -1 1 -1 -1 -1 -1 | 4 4 4 4 0 4 4 3 3 3 3 3 3 3 | | | | | | | | | | | 42 | | | | | | | | | |
| | 13 | -1 -1 -1 -1 -1 -1 1 | 4 4 4 4 4 0 4 3 3 3 3 3 3 3 | | | | | | | | | | | 42 | | | | | | | | | |
| | 14 | -1 -1 -1 1 -1 -1 -1 | 4 4 4 4 4 4 0 3 3 3 3 3 3 3 | | | | | | | | | | | 42 | | | | | | | | | |

(Fed = 1. runde, blot til info)
Til opslag af modstander

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 4 | 7 | 3 | 6 | 2 | 5 |
| 4 | 7 | 3 | 6 | 2 | 5 | 1 |
| 7 | 3 | 6 | 2 | 5 | 1 | 4 |
| 3 | 6 | 2 | 5 | 1 | 4 | 7 |
| 6 | 2 | 5 | 1 | 4 | 7 | 3 |
| 2 | 5 | 1 | 4 | 7 | 3 | 6 |
| 5 | 1 | 4 | 7 | 3 | 6 | 2 |

| Par mødes? (M-matrix) | | | | | | | | | | | | | | |
|-----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 8 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Med ovenstående nye plan er balancen ved oversidder uafhængig af oversidders parnr: **Qf1 = 85,09**, d4 = 1,56, s = 0,46

| | |
|--------------|-------|
| Middelværdi: | 3,23 |
| Spredning: | 1,05 |
| Skævhed s = | 0,325 |
| Max = | 4 |
| Min = | 0 |
| Qc = | 90,46 |
| Qf = | 92,00 |

Qc = 100 / (1 + s^2)
Qf stemmer med pjms' bedste

Gamle vandring hhv. drej (20160523-udgave, kort kun 1 bord opad pr. runde):

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|----|----|----|----|----|----|----|---|
| 1 | 5 | 2 | 6 | 3 | 7 | 4 | -1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 5 | 2 | 6 | 3 | 7 | 4 | 1 | 1 | -1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 6 | 3 | 7 | 4 | 1 | 5 | 1 | 1 | -1 | 1 | 1 | 1 | 1 | 1 |
| 6 | 3 | 7 | 4 | 1 | 5 | 2 | 1 | 1 | 1 | -1 | 1 | 1 | 1 | 1 |
| 3 | 7 | 4 | 1 | 5 | 2 | 6 | 1 | 1 | 1 | 1 | -1 | 1 | 1 | 1 |
| 7 | 4 | 1 | 5 | 2 | 6 | 3 | 1 | 1 | 1 | 1 | 1 | -1 | 1 | 1 |
| 4 | 1 | 5 | 2 | 6 | 3 | 7 | 1 | 1 | 1 | 1 | 1 | 1 | -1 | 1 |

← Denne gamle plan (vandring+drej) har dårligere balanceforhold ved oversidder:
Kun optimal balance (= nye plans) hvis oversidderparret er vandrende (par 8-14).
Hvis oversidder er fast (par 1-7), har den derimod: Qf1 = 82,20, d4 = 1,65, s = 0,50
Selv uden oversidder er den derfor lidt dårligere i 2 stærke par-modellen (sdw = 1,70 vs. 1,68 i nye)

Balanceskema for "COWI Balanceret rover-Mitchell, 8 borde, 7 runder" (rover-substitution i 7b 7r med norsk vandring)

Designet 20161215 af ukd

(Mellemregnet i ikke-printet matrix til højre:)

(LibreOffice: husk Ctrl-Shift-Enter ved matrix-formler!)

(b-version: blot fejl i kommentar rettet)

L = 16x7-matrix af Par-Led

B = L*transp(L) + 8*M = balance (16x16-matrix)

M = 16x16-matrix af 1'er når par mødes

hvor diagonal slettes manuelt = par mod sig selv

| Række til Qf-beregning: | | 4 4 4 4 3 3 3 3 3 3 3 3 3 3 3 3 | | | | | | | | | | | | | | | | 49 | | | | | | | |
|---------------------------------|-----|---------------------------------|--|----|--|--|--|--|---------------------------------------|--|--|--|--|--|--|--|--|----|--|--|--|--|--|--|-----|
| Modstander i givet sæt | | Led i sæt nr (-1=ØV) | | | | | | | Balancetal (nettomodstand) mod par nr | | | | | | | | | | | | | | | | Sum |
| 1 2 3 4 5 6 7 | Par | 1 2 3 4 5 6 7 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | -1 1 1 1 1 1 1 | 5 3 3 5 5 1 3 3 5 1 5 3 -1 5 3 | 49 | | | | | | | | | | | | | | | | | | | | | |
| (Fed = 1. runde, blot til info) | 2 | -1 1 1 1 1 1 -1 | 5 5 1 3 3 3 5 1 -1 3 3 5 5 3 5 | 49 | | | | | | | | | | | | | | | | | | | | | |
| Til opslag af modstander | 3 | 1 1 1 1 1 1 -1 | 3 5 3 5 1 5 3 3 5 5 5 -1 3 1 3 | 49 | | | | | | | | | | | | | | | | | | | | | |
| | 4 | 1 1 -1 1 1 1 1 | 3 1 3 5 5 5 3 -1 1 5 5 3 3 5 3 | 49 | | | | | | | | | | | | | | | | | | | | | |
| Par 16 er rover (vagabond). | 5 | 1 1 1 1 1 1 1 | 5 3 5 5 3 3 1 5 3 3 -1 5 5 3 1 | 49 | | | | | | | | | | | | | | | | | | | | | |
| Par 8 fast bord 8 møder | 6 | -1 1 -1 1 1 1 1 | 5 3 1 5 3 3 5 5 3 3 3 1 5 -1 5 | 49 | | | | | | | | | | | | | | | | | | | | | |
| hver runde det par som | 7 | 1 1 -1 1 1 1 -1 | 1 3 5 5 3 3 5 5 3 -1 3 5 1 3 5 | 49 | | | | | | | | | | | | | | | | | | | | | |
| par 16 skubber væk. | 8 | -1 1 -1 1 1 1 -1 | 3 5 3 3 1 5 5 3 5 5 1 3 3 5 -1 | 49 | | | | | | | | | | | | | | | | | | | | | |
| 1 5 2 6 3 7 8 | 9 | 1 -1 -1 -1 -1 -1 1 | 3 1 3 -1 5 5 5 3 1 5 5 3 3 5 3 | 49 | | | | | | | | | | | | | | | | | | | | | |
| 5 8 6 3 7 4 1 | 10 | -1 -1 1 -1 -1 -1 -1 | 5 -1 5 1 3 3 3 5 1 3 3 5 5 3 5 | 49 | | | | | | | | | | | | | | | | | | | | | |
| 2 6 3 8 4 1 5 | 11 | 1 -1 -1 -1 -1 -1 -1 | 1 3 5 5 3 3 -1 5 5 3 3 5 1 3 5 | 49 | | | | | | | | | | | | | | | | | | | | | |
| 6 3 7 4 1 8 2 | 12 | 1 -1 1 -1 -1 -1 1 | 5 3 5 5 -1 3 3 1 5 3 3 5 5 3 1 | 49 | | | | | | | | | | | | | | | | | | | | | |
| 8 7 4 1 5 2 6 | 13 | 1 -1 1 -1 -1 -1 -1 | 3 5 -1 3 5 1 5 3 3 5 5 5 3 1 3 | 49 | | | | | | | | | | | | | | | | | | | | | |
| 7 4 8 5 2 6 3 | 14 | -1 -1 1 -1 -1 -1 1 | -1 5 3 3 5 5 1 3 3 5 1 5 3 5 3 | 49 | | | | | | | | | | | | | | | | | | | | | |
| 4 1 5 2 8 3 7 | 15 | -1 -1 -1 -1 -1 -1 1 | 5 3 1 5 3 -1 3 5 5 3 3 3 1 5 5 | 49 | | | | | | | | | | | | | | | | | | | | | |
| 3 2 1 7 6 5 4 | 16 | -1 -1 -1 -1 -1 -1 -1 | 3 5 3 3 1 5 5 -1 3 5 5 1 3 3 5 | 49 | | | | | | | | | | | | | | | | | | | | | |

| Par mødes? (M-matrix) | | | | | | | | | | | | | | | | |
|-----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 | | | | | | | | | | | | | | | |
| 1 | 0 0 0 0 0 0 0 0 1 1 1 1 1 0 1 1 | | | | | | | | | | | | | | | |
| 2 | 0 0 0 0 0 0 0 0 1 0 1 1 1 1 1 1 | | | | | | | | | | | | | | | |
| 3 | 0 0 0 0 0 0 0 0 1 1 1 1 0 1 1 1 | | | | | | | | | | | | | | | |
| 4 | 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | |
| 5 | 0 0 0 0 0 0 0 0 1 1 1 0 1 1 1 1 | | | | | | | | | | | | | | | |
| 6 | 0 0 0 0 0 0 0 0 1 1 1 1 1 1 0 1 | | | | | | | | | | | | | | | |
| 7 | 0 0 0 0 0 0 0 0 1 1 0 1 1 1 1 1 | | | | | | | | | | | | | | | |
| 8 | 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 0 | | | | | | | | | | | | | | | |
| 9 | 1 1 1 0 1 1 1 1 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | |
| 10 | 1 0 1 1 1 1 1 1 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | |
| 11 | 1 1 1 1 1 1 1 0 1 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | |
| 12 | 1 1 1 1 0 1 1 1 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | |
| 13 | 1 1 0 1 1 1 1 1 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | |
| 14 | 0 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | |
| 15 | 1 1 1 1 1 0 1 1 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | |
| 16 | 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | |

Bedste oversidder er par 8/16 (så kortdelingen bortfalder) eller evt. par 5/12:

Qf1 = 73,68, d4 = 2,27, s = 0,62

Aller dårligste balance for par 1/3/4, omend kun en smule ringere end bedste:

Qf1 = 73,17, d4 = 2,32, s = 0,63

Men uanset oversidder eller ej bør man stærkt overveje et af disse alternativer i stedet:

- 2 rækker à 4 borde 7 runder fuld Howell (s=0,00) – hvis ok med 2 vindere i stedet (dog noget trist at spille med oversidder med kun 4 borde)
- COWI Forlænget BGG-Mitchell, 8 borde, 9 runder (s=0,29) eller evt. COWI afkortet Howell 8 borde 9 runder (s=0,48) – hvis ok med 9 runder i stedet for 7

| | |
|--------------|-------|
| Middelværdi: | 3,27 |
| Spredning: | 1,77 |
| Skævhed s = | 0,541 |
| Max = | 5 |
| Min = | -1 |
| Qc = | 77,33 |
| Qf = | 78,74 |

Qc = 100 / (1 + s^2)

Qf stemmer med pjms' bedste (16 pairs, 7 rounds)

Balanceskema for "Bofors Mitchell, 9 borde" (DBf-standard, BC 2.4.5)

revideret 20160523 (sæt 1 roteret i alle opgør)

(Mellemregnet i ikke-printet matrix til højre:)

L = 18x9-matrix af Par-Led

B = L*transp(L) + 9*M = balance (18x18-matrix)

hvor diagonal slettes manuelt = par mod sig selv

(LibreOffice: husk Ctrl-Shift-Enter ved matrix-formler!)

M = 18x18-matrix af 1'er når par mødes

| Række til Qf-beregning: | | 5 5 5 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | | | | | | | | | | | | | | | | | | 72 |
|---------------------------------|-----|-------------------------------------|--|-----|--|--|--|--|--|--|---------------------------------------|--|--|--|--|--|--|--|--|-----|
| Modstander i givet sæt | | Led i sæt nr (-1=ØV) | | | | | | | | | Balancetal (nettomodstand) mod par nr | | | | | | | | | Sum |
| 1 2 3 4 5 6 7 8 9 | Par | 1 2 3 4 5 6 7 8 9 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 | Sum | | | | | | | | | | | | | | | | |
| | 1 | 1 1 1 -1 1 -1 1 1 -1 | -3 1 1 1 1 1 1 -3 12 8 4 12 8 8 8 4 8 | 72 | | | | | | | | | | | | | | | | |
| | 2 | -1 1 1 1 -1 1 -1 1 1 | -3 -3 1 1 1 1 1 1 8 12 8 4 12 8 8 8 4 | 72 | | | | | | | | | | | | | | | | |
| | 3 | 1 -1 1 1 1 -1 1 -1 1 | 1 -3 -3 1 1 1 1 1 4 8 12 8 4 12 8 8 8 | 72 | | | | | | | | | | | | | | | | |
| | 4 | 1 1 -1 1 1 1 -1 1 -1 | 1 1 -3 -3 1 1 1 1 8 4 8 12 8 4 12 8 8 | 72 | | | | | | | | | | | | | | | | |
| Dansk standardvanding: | 5 | -1 1 1 -1 1 1 1 -1 1 | 1 1 1 -3 -3 1 1 1 8 8 4 8 12 8 4 12 8 | 72 | | | | | | | | | | | | | | | | |
| Par 1 bord stigende hver runde | 6 | 1 -1 1 1 -1 1 1 1 -1 | 1 1 1 1 -3 -3 1 1 8 8 8 4 8 12 8 4 12 | 72 | | | | | | | | | | | | | | | | |
| Kort 1 bordnr faldende | 7 | -1 1 -1 1 1 -1 1 1 1 | 1 1 1 1 1 -3 -3 1 12 8 8 8 4 8 12 8 4 | 72 | | | | | | | | | | | | | | | | |
| (Fed = 1. runde, blot til info) | 8 | 1 -1 1 -1 1 1 -1 1 1 | 1 1 1 1 1 1 -3 -3 4 12 8 8 8 4 8 12 8 | 72 | | | | | | | | | | | | | | | | |
| Til opslag af modstanders led: | 9 | 1 1 -1 1 -1 1 1 -1 1 | -3 1 1 1 1 1 1 -3 8 4 12 8 8 8 4 8 12 | 72 | | | | | | | | | | | | | | | | |
| (Kun for vandreprar) | 10 | -1 1 -1 -1 -1 -1 1 1 -1 | 12 8 4 8 8 8 12 4 8 1 -3 1 1 1 1 -3 1 | 72 | | | | | | | | | | | | | | | | |
| 1 6 2 7 3 8 4 9 5 | 11 | -1 -1 -1 -1 -1 -1 1 1 -1 | 8 12 8 4 8 8 8 12 4 1 1 -3 1 1 1 -3 1 | 72 | | | | | | | | | | | | | | | | |
| 6 2 7 3 8 4 9 5 1 | 12 | 1 -1 -1 1 -1 -1 -1 1 -1 | 4 8 12 8 4 8 8 8 12 -3 1 1 -3 1 1 1 1 | 72 | | | | | | | | | | | | | | | | |
| 2 7 3 8 4 9 5 1 6 | 13 | 1 1 -1 -1 1 -1 -1 -1 -1 | 12 4 8 12 8 4 8 8 8 1 -3 1 1 -3 1 1 1 | 72 | | | | | | | | | | | | | | | | |
| 7 3 8 4 9 5 1 6 2 | 14 | -1 1 1 -1 -1 1 -1 -1 -1 | 8 12 4 8 12 8 4 8 8 1 1 -3 1 1 -3 1 1 | 72 | | | | | | | | | | | | | | | | |
| 3 8 4 9 5 1 6 2 7 | 15 | -1 -1 1 1 -1 -1 1 -1 -1 | 8 8 12 4 8 12 8 4 8 1 1 1 -3 1 1 -3 1 | 72 | | | | | | | | | | | | | | | | |
| 8 4 9 5 1 6 2 7 3 | 16 | -1 -1 -1 1 1 -1 -1 1 -1 | 8 8 8 12 4 8 12 8 4 1 1 1 -3 1 1 -3 1 | 72 | | | | | | | | | | | | | | | | |
| 4 9 5 1 6 2 7 3 8 | 17 | -1 -1 -1 -1 1 1 -1 -1 1 | 4 8 8 8 12 4 8 12 8 -3 1 1 1 -3 1 1 | 72 | | | | | | | | | | | | | | | | |
| 9 5 1 6 2 7 3 8 4 | 18 | 1 -1 -1 -1 -1 1 1 -1 -1 | 8 4 8 8 8 12 4 8 12 1 -3 1 1 1 -3 1 | 72 | | | | | | | | | | | | | | | | |
| 5 1 6 2 7 3 8 4 9 | | | | | | | | | | | | | | | | | | | | |

| Par mødes? (M-matrix) | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Binært til NLP-solver...

Afprøv fortegnsskift:

| 1 2 3 4 5 6 7 8 9 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-------------------|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Bofors Mitchell standard (s=1,09 iflg. BC 2.4.5, stemmer):

| 1 2 3 4 5 6 7 8 9 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-------------------|----|----|----|----|----|----|----|----|----|
| 1 | 1 | 1 | 1 | -1 | 1 | -1 | 1 | 1 | -1 |
| 2 | -1 | 1 | 1 | 1 | -1 | 1 | -1 | 1 | 1 |
| 3 | 1 | -1 | 1 | 1 | 1 | -1 | 1 | -1 | 1 |
| 4 | 1 | 1 | -1 | 1 | 1 | 1 | -1 | 1 | -1 |
| 5 | -1 | 1 | 1 | -1 | 1 | 1 | 1 | -1 | 1 |
| 6 | 1 | -1 | 1 | 1 | -1 | 1 | 1 | 1 | -1 |
| 7 | -1 | 1 | -1 | 1 | 1 | -1 | 1 | 1 | 1 |
| 8 | 1 | -1 | 1 | -1 | 1 | 1 | -1 | 1 | 1 |
| 9 | 1 | 1 | -1 | 1 | -1 | 1 | 1 | -1 | -1 |

$$Qc = 100 / (1 + s^2)$$

Langt bedre efter optimering:

$$s = 0,275, \text{ min. max} = 0..5 \text{ med:}$$

| 1 2 3 4 5 6 7 8 9 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-------------------|----|----|----|----|----|----|----|----|----|
| 1 | -1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 1 | -1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | 1 | 1 | -1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 4 | 1 | 1 | 1 | -1 | 1 | 1 | 1 | 1 | 1 |
| 5 | 1 | 1 | 1 | 1 | -1 | 1 | 1 | 1 | 1 |
| 6 | 1 | 1 | 1 | 1 | 1 | -1 | 1 | 1 | 1 |
| 7 | 1 | 1 | 1 | 1 | 1 | 1 | -1 | 1 | 1 |
| 8 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | -1 | 1 |
| 9 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | -1 |

og med disse balancetal:

Giver dermed en smuk
Balanceret Mitchell for 9 borde
(helt samme system som for 7 borde, simpelt) med Qc = 92,97 Qf = 93,90

Qf stemmer med pjms' bedste

Men næste sides er endnu bedre (okt 2016).

Bofors Mitchell har alt, alt for mange ØV for de faste par!

I Holland har de altid "nøjedes" med at dreje 2 runder.

Men allerede i 1979 viste John Manning at 1 drej var det rigtige når man kun har i omegnen af 8 borde.

Siden da er vi flere andre der har fundet frem til det samme

– og først lidt senere opdaget at det var en meget gammel nyhed.

Balanceskema for "COWI Balanceret Mitchell, 9 borde" (forbedret version okt. 2016)

Skifteplan rev. 20161013

(Mellemregnet i ikke-printet matrix til højre:)

L = 18x9-matrix af Par-Led

B = L*transp(L) + 9*M = balance (18x18-matrix)

hvor diagonal slettes manuelt = par mod sig selv

(LibreOffice: husk Ctrl-Shift-Enter ved matrix-formler!)

M = 18x18-matrix af 1'er når par mødes

| Række til Qf-beregning: | | 5 5 5 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | | | | | | | | | | | | | | | | | | 72 |
|---|---------------------------|---------------------------------------|--|-----|--|--|--|--|--|--|---------------------------------------|--|--|--|--|--|--|--|--|-----|
| Modstander i givet sæt | | Led i sæt nr (-1=ØV) | | | | | | | | | Balancetal (nettomodstand) mod par nr | | | | | | | | | Sum |
| 1 2 3 4 5 6 7 8 9 | Par | 1 2 3 4 5 6 7 8 9 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 | Sum | | | | | | | | | | | | | | | | |
| Ny vandring fra okt. 2016: Par 1 bord stigende stadig Kort 4 faldende (før kun 1) (Fed = 1. runde, blot til info) Til opslag af modstanders led: (Kun for vandrepår) | 1 | 1 1 1 1 -1 1 1 1 1 | 5 5 5 5 5 5 5 5 5 4 4 4 4 4 0 4 4 4 | 72 | | | | | | | | | | | | | | | | |
| | 2 | 1 1 1 1 1 1 1 1 1 -1 | 5 5 5 5 5 5 5 5 5 0 4 4 4 4 4 4 4 4 | 72 | | | | | | | | | | | | | | | | |
| | 3 | -1 1 1 1 1 1 1 1 1 1 | 5 5 5 5 5 5 5 5 5 4 4 4 4 4 4 4 0 4 | 72 | | | | | | | | | | | | | | | | |
| | 4 | 1 1 1 1 1 1 -1 1 1 1 | 5 5 5 5 5 5 5 5 5 4 0 4 4 4 4 4 4 4 | 72 | | | | | | | | | | | | | | | | |
| | 5 | 1 1 1 -1 1 1 1 1 1 1 | 5 5 5 5 5 5 5 5 5 4 4 0 4 4 4 4 4 4 | 72 | | | | | | | | | | | | | | | | |
| | 6 | 1 -1 1 1 1 1 1 1 1 1 | 5 5 5 5 5 5 5 5 5 4 4 4 0 4 4 4 4 4 | 72 | | | | | | | | | | | | | | | | |
| | 7 | 1 1 1 1 1 1 1 -1 1 1 | 5 5 5 5 5 5 5 5 5 4 4 4 4 4 4 0 4 4 | 72 | | | | | | | | | | | | | | | | |
| | 8 | 1 1 1 1 1 1 1 1 -1 1 | 5 5 5 5 5 5 5 5 5 4 4 4 4 0 4 4 4 4 | 72 | | | | | | | | | | | | | | | | |
| | 9 | 1 1 -1 1 1 1 1 1 1 1 | 5 5 5 5 5 5 5 5 5 4 4 4 4 4 4 4 4 0 | 72 | | | | | | | | | | | | | | | | |
| 10 | -1 -1 -1 -1 -1 -1 -1 -1 1 | 4 0 4 4 4 4 4 4 4 5 5 5 5 5 5 5 5 5 | 72 | | | | | | | | | | | | | | | | | |
| 11 | -1 -1 -1 -1 -1 1 -1 -1 -1 | 4 4 4 0 4 4 4 4 4 5 5 5 5 5 5 5 5 5 | 72 | | | | | | | | | | | | | | | | | |
| 12 | -1 -1 -1 1 -1 -1 -1 -1 -1 | 4 4 4 4 0 4 4 4 4 5 5 5 5 5 5 5 5 5 | 72 | | | | | | | | | | | | | | | | | |
| 13 | -1 1 -1 -1 -1 -1 -1 -1 -1 | 4 4 4 4 4 0 4 4 4 5 5 5 5 5 5 5 5 5 | 72 | | | | | | | | | | | | | | | | | |
| 14 | -1 -1 -1 -1 -1 -1 -1 1 -1 | 4 4 4 4 4 4 4 4 4 0 4 5 5 5 5 5 5 5 5 | 72 | | | | | | | | | | | | | | | | | |
| 15 | -1 -1 -1 -1 1 -1 -1 -1 -1 | 0 4 4 4 4 4 4 4 4 4 4 5 5 5 5 5 5 5 5 | 72 | | | | | | | | | | | | | | | | | |
| 16 | -1 -1 -1 -1 -1 -1 1 -1 -1 | 4 4 4 4 4 4 4 0 4 4 5 5 5 5 5 5 5 5 | 72 | | | | | | | | | | | | | | | | | |
| 17 | 1 -1 -1 -1 -1 -1 -1 -1 -1 | 4 4 0 4 4 4 4 4 4 4 5 5 5 5 5 5 5 5 | 72 | | | | | | | | | | | | | | | | | |
| 18 | -1 -1 1 -1 -1 -1 -1 -1 -1 | 4 4 4 4 4 4 4 4 4 0 5 5 5 5 5 5 5 5 | 72 | | | | | | | | | | | | | | | | | |

| Par mødes? (M-matrix) | | | | | | | | | | | | | | | | | |
|--|-------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 | | | | | | | | | | | | | | | | | |
| 1 | 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | |
| 2 | 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | |
| 3 | 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | |
| 4 | 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | |
| 5 | 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | |
| 6 | 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | |
| 7 | 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | |
| 8 | 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | |
| 9 | 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | |
| 10 | 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| 11 | 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| 12 | 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| 13 | 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| 14 | 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| 15 | 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| 16 | 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| 17 | 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| 18 | 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |

Binært til NLP-solver...

Afprøv fortegnsskift:

| 1 2 3 4 5 6 7 8 9 |
|-------------------|
| 0 0 0 0 0 0 0 0 0 |
| 0 0 0 0 0 0 0 0 0 |
| 0 0 0 0 0 0 0 0 0 |
| 0 0 0 0 0 0 0 0 0 |
| 0 0 0 0 0 0 0 0 0 |
| 0 0 0 0 0 0 0 0 0 |
| 0 0 0 0 0 0 0 0 0 |
| 0 0 0 0 0 0 0 0 0 |
| 0 0 0 0 0 0 0 0 0 |
| 0 0 0 0 0 0 0 0 0 |

Ny version 20161013:

| 1 2 3 4 5 6 7 8 9 |
|--------------------|
| 1 1 1 1 -1 1 1 1 1 |
| 2 1 1 1 1 1 1 1 -1 |
| 3 -1 1 1 1 1 1 1 1 |
| 4 1 1 1 1 1 -1 1 1 |
| 5 1 1 1 -1 1 1 1 1 |
| 6 1 -1 1 1 1 1 1 1 |
| 7 1 1 1 1 1 1 -1 1 |
| 8 1 1 1 1 1 1 1 -1 |
| 9 1 1 -1 1 1 1 1 1 |

$$Qc = 100 / (1 + s^2)$$

Oversidderkvalitet:

13/10-udgaven er optimal for 14 af de 18 par:

Qf1 = 89,77, d4 = 1,90, s = 0,36

Undgå par 4, 6, 15 og 18 som oversidder. De giver:

Qf1 = 89,43, d4 = 1,93, s = 0,37 (= 5/10-udgaves for ethvert par = maj-udgaves kun for en vandrende Oversidder)

| | |
|--------------------|--------------|
| Middelværdi: | 4,24 |
| Spredning: | 1,16 |
| Skævhed s = | 0,275 |
| Max = | 5 |
| Min = | 0 |
| Qc = | 92,97 |
| Qf = | 93,90 |

Version fra 20161005 har alle 9 drej i 1. runde:

| | |
|---|--------------------|
| 1 | -1 1 1 1 1 1 1 1 1 |
| 2 | 1 1 1 1 1 1 1 -1 1 |
| 3 | 1 1 1 1 1 -1 1 1 1 |
| 4 | 1 1 1 -1 1 1 1 1 1 |
| 5 | 1 -1 1 1 1 1 1 1 1 |
| 6 | 1 1 1 1 1 1 1 1 -1 |
| 7 | 1 1 1 1 1 1 -1 1 1 |
| 8 | 1 1 1 1 -1 1 1 1 1 |
| 9 | 1 1 -1 1 1 1 1 1 1 |

Det giver samme s som maj- og 13/10-versionerne. Bedre oversidderkvalitet end maj (**Qf1=89,43** her for alle par; maj kun for par 10-18, **88,43** for 1-9). Men 13/10 er endnu bedre.

Balanceskema for "COWI Forlænget BTW-Mitchell, 9 borde, 10 runder" (BTW = Balanceret Triple Weave, baseret på 3 grupper à 3 par/borde/runder + 1 hævnrunde)

Skifteplan designet 20170107 af ukd

(Mellemregnet i ikke-printet matrix til højre:)

(LibreOffice: husk Ctrl-Shift-Enter ved matrix-formler!)

L = 18x10-matrix af Par-Led

B = L*transp(L) + 9*M = balance (18x18-matrix)

M = 18x18-matrix af pars antal møder

hvor diagonal slettes manuelt = par mod sig selv

| Række til Qf-beregning: | | | | | | | | | | 4 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 | | | | | | | | | | | | | | | | | | 80 | | | | | | | | | | |
|--|----|----|----|----|----|----|----|----|----|-------------------------------------|----|----|----|----|----|----|----|----|----|---------------------------------------|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|-----|
| Modstander i givet sæt | | | | | | | | | | Led i sæt nr (-1 = ØV) | | | | | | | | | | Balancetal (nettomodstand) mod par nr | | | | | | | | | | | | | | | | | | Sum |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
| Vandring i runde 2-10 (= de 3*3 sidste) på nær når ramt af Worgersubstitution: | 1 | 1 | 1 | 1 | 1 | -1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 6 | 4 | 6 | 6 | 4 | 4 | 6 | 3 | 5 | 5 | 5 | 3 | 5 | 3 | 8 | 3 | 80 |
| - par 1 bord højere i gruppe hver runde | 2 | 1 | 1 | 1 | 1 | 1 | -1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 6 | 4 | 4 | 6 | 6 | 4 | 5 | 3 | 3 | 5 | 8 | 5 | 5 | 5 | 5 | 80 | |
| - kort 1 bord lavere i gruppe hver runde | 3 | 1 | -1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | -1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 4 | 4 | 6 | 6 | 4 | 4 | 6 | 8 | 5 | 5 | 5 | 3 | 5 | 3 | 3 | 3 | 80 | |
| - pargruppe 1 bordgruppe højere hver... | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | -1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | -1 | 4 | 6 | 4 | 4 | 4 | 6 | 6 | 4 | 5 | 3 | 8 | 3 | 5 | 3 | 5 | 5 | 5 | 80 | |
| - kortgruppe 1 bordgruppe lavere hver... | 5 | 1 | 1 | -1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 1 | -1 | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 4 | 6 | 4 | 6 | 4 | 4 | 6 | 3 | 5 | 5 | 5 | 3 | 5 | 8 | 3 | 3 | 80 | |
| (Fed = 1. runde, blot til info) | 6 | 1 | 1 | 1 | -1 | 1 | 1 | 1 | 1 | 6 | 1 | 1 | 1 | -1 | 1 | 1 | 1 | 1 | 1 | 6 | 4 | 6 | 4 | 6 | 4 | 4 | 6 | 3 | 5 | 5 | 5 | 8 | 5 | 3 | 3 | 3 | 80 | |
| Til opslag af modstanders led: (Kun for vandrepar) | 7 | -1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 7 | -1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | -1 | 4 | 6 | 4 | 6 | 4 | 4 | 6 | 4 | 5 | 3 | 3 | 8 | 5 | 3 | 5 | 5 | 5 | 80 | |
| | 8 | 1 | 1 | 1 | -1 | 1 | 1 | 1 | 1 | 8 | 1 | 1 | 1 | -1 | 1 | 1 | 1 | 1 | -1 | 4 | 6 | 4 | 6 | 4 | 4 | 6 | 4 | 5 | 8 | 3 | 3 | 5 | 3 | 5 | 5 | 5 | 80 | |
| | 9 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | -1 | 9 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | -1 | 6 | 4 | 6 | 4 | 6 | 4 | 4 | 6 | 3 | 5 | 5 | 5 | 3 | 5 | 3 | 3 | 8 | 80 | | |
| | 10 | -1 | 1 | -1 | -1 | -1 | -1 | -1 | -1 | 10 | -1 | 1 | -1 | -1 | -1 | -1 | -1 | -1 | 3 | 5 | 8 | 5 | 3 | 3 | 5 | 5 | 3 | 4 | 4 | 4 | 6 | 4 | 6 | 6 | 6 | 80 | | |
| | 11 | -1 | -1 | -1 | -1 | 1 | -1 | -1 | -1 | 11 | -1 | -1 | -1 | -1 | 1 | -1 | -1 | -1 | 5 | 3 | 5 | 3 | 5 | 5 | 3 | 8 | 5 | 4 | 6 | 6 | 4 | 6 | 4 | 4 | 4 | 80 | | |
| | 12 | -1 | -1 | -1 | -1 | -1 | -1 | 1 | -1 | 12 | -1 | -1 | -1 | -1 | -1 | -1 | 1 | -1 | 5 | 3 | 5 | 8 | 5 | 5 | 3 | 3 | 5 | 4 | 6 | 6 | 4 | 6 | 4 | 4 | 4 | 80 | | |
| | 13 | 1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 13 | 1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 5 | 3 | 5 | 3 | 5 | 5 | 8 | 3 | 5 | 4 | 6 | 6 | 4 | 6 | 4 | 4 | 4 | 80 | | |
| | 14 | -1 | -1 | -1 | 1 | -1 | -1 | -1 | -1 | 14 | -1 | -1 | -1 | 1 | -1 | -1 | -1 | -1 | 3 | 5 | 3 | 5 | 3 | 8 | 5 | 5 | 3 | 6 | 4 | 4 | 4 | 6 | 6 | 6 | 80 | | | |
| | 15 | -1 | -1 | -1 | -1 | -1 | 1 | -1 | -1 | 15 | -1 | -1 | -1 | -1 | -1 | 1 | -1 | -1 | 5 | 8 | 5 | 3 | 5 | 5 | 3 | 3 | 5 | 4 | 6 | 6 | 4 | 4 | 4 | 4 | 80 | | | |
| | 16 | -1 | -1 | 1 | -1 | -1 | -1 | -1 | -1 | 16 | -1 | -1 | 1 | -1 | -1 | -1 | -1 | -1 | 3 | 5 | 3 | 5 | 8 | 3 | 5 | 5 | 3 | 6 | 4 | 4 | 6 | 4 | 6 | 6 | 80 | | | |
| | 17 | -1 | -1 | -1 | -1 | -1 | 1 | -1 | -1 | 17 | -1 | -1 | -1 | -1 | -1 | 1 | -1 | -1 | 8 | 5 | 3 | 5 | 3 | 3 | 5 | 5 | 3 | 6 | 4 | 4 | 4 | 6 | 4 | 6 | 80 | | | |
| | 18 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | 1 | 18 | -1 | -1 | -1 | -1 | -1 | -1 | 1 | -1 | 3 | 5 | 3 | 5 | 3 | 3 | 5 | 5 | 8 | 6 | 4 | 4 | 4 | 6 | 4 | 6 | 80 | | | |

| Pars antal møder (M-matrix) | | | | | | | | | | | | | | | | | | |
|-----------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| 10 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Skifteplan: 1. runde er som sædvanlig hævnrunden med alle faste par ØV; alle mødes igen i en senere runde.

| Ru | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B9 |
|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 17-1 6 | 15-2 7 | 10-3 2 | 12-4 8 | 16-5 3 | 14-6 4 | 13-7 1 | 11-8 5 | 18-9 9 |
| 2 | 1-10 1 | 2-11 2 | 3-12 3 | 4-13 4 | 5-14 5 | 6-15 6 | 7-16 7 | 8-17 8 | 9-18 10 |
| 3 | 1-12 2 | 2-10 3 | 3-11 1 | 4-15 5 | 5-13 6 | 6-14 10 | 7-18 8 | 8-16 9 | 9-17 7 |
| 4 | 1-11 3 | 2-12 1 | 3-10 10 | 4-14 6 | 5-15 4 | 6-13 5 | 7-17 9 | 8-18 7 | 9-16 8 |
| 5 | 1-16 4 | 2-17 5 | 3-18 6 | 4-10 7 | 5-11 8 | 6-12 9 | 13-7 10 | 8-14 2 | 9-15 3 |
| 6 | 1-18 5 | 2-16 6 | 3-17 4 | 12-4 10 | 5-10 9 | 6-11 7 | 7-15 2 | 8-13 3 | 9-14 1 |
| 7 | 1-17 10 | 2-18 4 | 3-16 5 | 4-11 9 | 5-12 7 | 6-10 8 | 7-14 3 | 8-15 1 | 9-13 2 |
| 8 | 1-13 7 | 2-14 8 | 3-15 9 | 4-16 1 | 5-17 2 | 6-18 3 | 7-10 4 | 11-8 10 | 9-12 6 |
| 9 | 1-15 8 | 2-13 9 | 3-14 7 | 4-18 2 | 5-16 10 | 6-17 1 | 7-12 5 | 8-10 6 | 9-11 4 |
| 10 | 1-14 9 | 15-2 10 | 3-13 8 | 4-17 3 | 5-18 1 | 6-16 2 | 7-11 6 | 8-12 4 | 9-10 5 |

De blågrå+cyan kampe er ramt af Worgersubstitutionen med sæt 10. Substitutionen bevæger sig én bordgruppe lavere hver runde, med 1 bord højere i gruppen for hver rundegruppe (= hver 3. runde).

| | |
|--------------------|--------------|
| Middelværdi: | 4,71 |
| Spredning: | 1,32 |
| Skævhed s = | 0,281 |
| Max = | 8 |
| Min = | 3 |
| Qc = | 92,68 |
| Qf = | 93,54 |

Qc = 100 / (1 + s^2)

De 4 drej af sæt 10 er udvalgt således at bedste oversidder bliver par 9, dvs. bord 9 oversidderbord:

Qf1 = 90,91, d4 = 1,68, s = 0,33 (Par 18 sidder så over i de 2 første af de 10 runder)

Værste oversidder er par 12+15:

Qf1 = 87,61, d4 = 1,92, s = 0,39

Balanceskema for "COWI Balanceret rover-Mitchell, 10 borde, 9 runder" (2017-version, nu baseret på udvidelse af 9-bords "Triple Weave Mitchell" med 1 ekstra bord)

Skifteplan designet 20170107 af ukd

(Mellemregnet i ikke-printet matrix til højre:)

(LibreOffice: husk Ctrl-Shift-Enter ved matrix-formler!)

L = 20x9-matrix af Par-Led

B = L*transp(L) + 10*M = balance (20x20-matrix)

M = 20x20-matrix af pars antal møder

hvor diagonal slettes manuelt = par mod sig selv

| Række til Qf-beregning: | | 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 5 5 | | | | | | | | | | | | | | | | | | | 81 |
|---|-----|---|--|--|--|--|--|--|--|--|---------------------------------------|--|--|--|--|--|--|--|--|----|-----|
| Modstander i givet sæt | | Led i sæt nr (-1 = ØV) | | | | | | | | | Balancetal (nettomodstand) mod par nr | | | | | | | | | | Sum |
| 1 2 3 4 5 6 7 8 9 | Par | 1 2 3 4 5 6 7 8 9 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | | | | | | | | | | | | | | | | | | |
| Vandring som i den forlængede 9b 10r ('s 9 sidste runder) på nær når ramt af roversubstitution. | 1 | -1 -1 1 1 1 1 1 1 1 | 5 5 3 5 3 3 5 7 5 5 5 3 3 3 5 5 -1 7 5 | | | | | | | | | | | | | | | | | 81 | |
| Se også nedest på siden. | 2 | 1 -1 -1 1 1 1 1 1 1 | 5 5 3 5 7 3 5 3 5 5 5 3 3 7 -1 5 5 3 5 | | | | | | | | | | | | | | | | | 81 | |
| (Fed = 1. runde, blot til info) | 3 | 1 1 1 1 1 1 1 1 1 | 5 5 3 9 3 7 5 3 1 -1 5 3 7 3 5 9 5 3 1 | | | | | | | | | | | | | | | | | 81 | |
| Til opslag af modstanders led: (Kun for vandrepar) | 4 | -1 1 -1 1 1 1 -1 1 1 | 3 3 3 3 5 5 7 5 7 3 7 -1 5 5 3 3 3 5 7 | | | | | | | | | | | | | | | | | 81 | |
| | 5 | 1 1 1 1 1 1 1 1 1 | 5 5 9 3 3 7 5 3 1 9 5 3 7 3 5 -1 5 3 1 | | | | | | | | | | | | | | | | | 81 | |
| | 6 | 1 -1 -1 1 1 1 -1 1 1 | 3 7 3 5 3 3 5 7 3 3 5 5 -1 7 3 3 5 7 | | | | | | | | | | | | | | | | | 81 | |
| | 7 | 1 1 1 1 1 1 -1 1 1 | 3 3 7 5 7 5 3 5 3 7 3 5 -1 5 3 7 3 5 3 | | | | | | | | | | | | | | | | | 81 | |
| | 8 | -1 1 -1 1 1 1 1 1 1 | 5 5 5 7 5 3 3 3 5 5 -1 7 3 3 5 5 5 3 5 | | | | | | | | | | | | | | | | | 81 | |
| | 9 | -1 -1 1 1 1 1 -1 1 1 | 7 3 3 5 3 5 5 3 7 3 3 5 5 5 3 3 7 -1 7 | | | | | | | | | | | | | | | | | 81 | |
| | 10 | -1 -1 -1 1 1 1 -1 1 1 | 5 5 1 7 1 7 3 5 7 1 5 7 3 7 5 1 5 7 -1 | | | | | | | | | | | | | | | | | 81 | |
| | 11 | 1 1 1 -1 -1 -1 1 -1 -1 | 5 5 -1 3 9 3 7 5 3 1 5 3 7 3 5 9 5 3 1 | | | | | | | | | | | | | | | | | 81 | |
| | 12 | 1 1 -1 -1 -1 -1 1 -1 -1 | 5 5 5 7 5 3 3 -1 3 5 5 7 3 3 5 5 3 5 | | | | | | | | | | | | | | | | | 81 | |
| | 13 | -1 1 -1 -1 -1 -1 -1 -1 -1 | 3 3 3 -1 3 5 5 7 5 3 7 5 5 3 3 5 7 | | | | | | | | | | | | | | | | | 81 | |
| | 14 | 1 1 1 -1 -1 -1 -1 -1 -1 | 3 3 7 5 7 5 -1 3 5 3 7 3 5 5 3 7 3 5 3 | | | | | | | | | | | | | | | | | 81 | |
| | 15 | 1 -1 -1 -1 -1 -1 -1 -1 -1 | 3 7 3 5 3 -1 5 3 5 7 3 3 5 5 7 3 3 5 7 | | | | | | | | | | | | | | | | | 81 | |
| | 16 | 1 -1 -1 -1 -1 -1 1 -1 -1 | 5 -1 5 3 5 7 3 5 3 5 5 5 3 3 7 5 5 3 5 | | | | | | | | | | | | | | | | | 81 | |
| | 17 | 1 1 1 -1 -1 -1 1 -1 -1 | 5 5 9 3 -1 3 7 5 3 1 9 5 3 7 3 5 5 3 1 | | | | | | | | | | | | | | | | | 81 | |
| | 18 | -1 -1 1 -1 -1 -1 1 -1 -1 | -1 5 5 3 5 3 3 5 7 5 5 5 3 3 5 5 7 5 | | | | | | | | | | | | | | | | | 81 | |
| | 19 | -1 -1 1 -1 -1 -1 -1 -1 -1 | 7 3 3 5 3 5 5 3 -1 7 3 3 5 5 3 3 7 7 | | | | | | | | | | | | | | | | | 81 | |
| | 20 | -1 -1 -1 -1 -1 -1 -1 -1 -1 | 5 5 1 7 1 7 3 5 7 -1 1 5 7 3 7 5 1 5 7 | | | | | | | | | | | | | | | | | 81 | |

| Pars antal møder (M-matrix) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 11 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Skifteplan før ombytningen af par 20's kampe til bord 9 for at lette kortdelingen med bord 10:

| Ru | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B9 | B10 |
|----|---------|---------|--------|---------|--------|---------|---------|---------|---------|---------|
| 1 | 11- 1 1 | 12- 2 2 | 3-13 3 | 4-14 4 | 5-15 5 | 6-16 6 | 17- 7 7 | 8-18 8 | 9-20 9 | 10-19 9 |
| 2 | 13- 1 2 | 11- 2 3 | 3-12 1 | 4-16 5 | 5-14 6 | 6-20 4 | 7-19 8 | 8-17 9 | 18- 9 7 | 10-15 4 |
| 3 | 1-12 3 | 2-13 1 | 3-20 2 | 4-15 6 | 5-16 4 | 6-14 5 | 7-18 9 | 8-19 7 | 9-17 8 | 11-10 2 |
| 4 | 1-17 4 | 2-18 5 | 3-19 6 | 11- 4 7 | 5-12 8 | 6-13 9 | 7-20 1 | 8-15 2 | 9-16 3 | 14-10 1 |
| 5 | 1-19 5 | 2-17 6 | 3-18 4 | 4-20 8 | 5-11 9 | 12- 6 7 | 7-16 2 | 14- 8 3 | 15- 9 1 | 10-13 8 |
| 6 | 1-20 6 | 2-19 4 | 3-17 5 | 4-12 9 | 5-13 7 | 6-11 8 | 7-15 3 | 16- 8 1 | 14- 9 2 | 10-18 6 |
| 7 | 1-14 7 | 2-15 8 | 3-16 9 | 17- 4 1 | 5-18 2 | 19- 6 3 | 7-11 4 | 8-20 5 | 9-13 6 | 10-12 5 |
| 8 | 1-16 8 | 2-14 9 | 3-15 7 | 4-19 2 | 5-20 3 | 6-18 1 | 7-13 5 | 8-11 6 | 9-12 4 | 17-10 3 |
| 9 | 1-15 9 | 2-20 7 | 3-14 8 | 18- 4 3 | 5-19 1 | 17- 6 2 | 7-12 6 | 8-13 4 | 9-11 5 | 16-10 7 |

De blågrå kampe er ramt af roversubstitutionen med par 20. Substitutionen bevæger sig én bordgruppe lavere hver runde, med 1 bord højere i gruppen for hver rundegruppe (= hver 3. runde).

| | |
|--------------|-------|
| Middelværdi: | 4,26 |
| Spredning: | 2,09 |
| Skævhed s = | 0,491 |
| Max = | 9 |
| Min = | -1 |
| Qc = | 80,57 |
| Qf = | 81,43 |

← Nu eksakt samme skævhed som for en balanceret webmitchell, men med langt mindre kortdeling: kun mellem 2 borde i stedet for mellem helt op til 5*2 borde.
 $Qc = 100 / (1 + s^2)$

Bedste oversidder er par 10 eller 20, dvs. bord 10 eller 9 oversidderbord:

Qf1 = 80,03, d4 = 2,70, s = 0,51 (kortdelingen bortfalder samtidig)

Værste oversidder er par 1:

Qf1 = 76,10, d4 = 2,86, s = 0,57

Balanceskema for "COWI Balanceret GSB-Mitchell, 10 borde" (GSB-vandring, GSB = Groot Schemaboek, ingen kortdeling!)

Skifteplan fra 20161116

(Mellemregnet i ikke-printet matrix til højre:)

(LibreOffice: husk Ctrl-Shift-Enter ved matrix-formler!)

L = 20x10-matrix af Par-Led

B = L*transp(L) + 10*M = balance (20x20-matrix)

M = 20x20-matrix af pars antal møder

hvor diagonal slettes manuelt = par mod sig selv

| Række til Qf-beregning: | | 4 4 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 | | | | | | | | | | 90 | | | | | | | | | | |
|--|----------------|---|--|---------------------------------------|----|--|--|--|--|--|--|---------------------------------------|--|--|--|--|--|--|--|--|--|-----|
| Modstander i givet sæt | | Led i sæt nr (-1 = ØV) | | | | | | | | | | Balancetal (nettomodstand) mod par nr | | | | | | | | | | Sum |
| 1 2 3 4 5 6 7 8 9 10 | Par | 1 2 3 4 5 6 7 8 9 10 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | Sum | | | | | | | | | | | | | | | | | | |
| Vandring: (3+7)*(3+7)-delt fra GSB; se også nederst på siden. Derved undgås kortdeling helt. | 1 | -1 1 1 1 1 1 1 1 1 1 | 4 6 6 6 4 4 4 6 8 0 4 6 6 4 2 4 4 6 6 | 90 | | | | | | | | | | | | | | | | | | |
| | 2 | 1 -1 1 1 1 1 1 1 1 -1 | 4 4 4 4 6 6 6 4 6 6 2 4 4 6 4 6 6 4 4 | 90 | | | | | | | | | | | | | | | | | | |
| | 3 | 1 1 1 1 -1 1 1 1 1 1 | 6 4 6 6 4 4 4 6 4 4 4 6 6 4 6 4 4 2 6 | 90 | | | | | | | | | | | | | | | | | | |
| | 4 | 1 1 1 -1 1 1 1 1 1 1 | 6 4 6 6 4 4 4 6 4 4 4 6 2 4 6 4 4 6 6 | 90 | | | | | | | | | | | | | | | | | | |
| | 5 | 1 1 1 1 1 1 -1 1 1 1 | 6 4 6 6 4 4 4 6 4 4 4 6 6 4 6 4 4 6 2 | 90 | | | | | | | | | | | | | | | | | | |
| | 6 | 1 1 -1 1 1 1 1 1 1 -1 | 4 6 4 4 4 6 6 4 6 6 6 4 4 6 4 2 6 4 4 | 90 | | | | | | | | | | | | | | | | | | |
| | 7 | 1 1 1 1 1 1 1 1 -1 -1 | 4 6 4 4 4 6 6 4 6 6 6 4 4 2 4 6 6 4 4 | 90 | | | | | | | | | | | | | | | | | | |
| | 8 | 1 1 1 1 1 1 1 -1 1 -1 | 4 6 4 4 4 6 6 4 6 6 6 4 4 6 4 6 2 4 4 | 90 | | | | | | | | | | | | | | | | | | |
| | 9 | 1 1 1 1 1 -1 1 1 1 1 | 6 4 6 6 6 4 4 4 4 4 2 6 4 6 4 4 6 6 | 90 | | | | | | | | | | | | | | | | | | |
| | 10 | -1 1 1 1 1 1 1 1 1 -1 | 8 6 4 4 4 6 6 6 4 2 6 4 4 6 0 6 6 4 4 | 90 | | | | | | | | | | | | | | | | | | |
| 1 3 2 | 5 6 7 8 9 10 4 | 11 | 1 -1 -1 -1 -1 -1 -1 -1 -1 | 0 6 4 4 4 6 6 6 4 2 6 4 4 6 8 6 6 4 4 | 90 | | | | | | | | | | | | | | | | | |
| 3 2 1 | 6 7 8 9 10 4 5 | 12 | -1 1 -1 -1 -1 -1 -1 -1 -1 | 4 2 4 4 4 6 6 6 4 6 6 4 4 6 4 6 6 4 4 | 90 | | | | | | | | | | | | | | | | | |
| 2 1 3 | 7 8 9 10 4 5 6 | 13 | -1 -1 -1 -1 -1 1 -1 -1 -1 | 6 4 6 6 6 4 4 4 2 4 4 6 4 6 4 4 6 6 | 90 | | | | | | | | | | | | | | | | | |
| 8 9 10 | 4 2 5 3 6 1 7 | 14 | -1 -1 -1 1 -1 -1 -1 -1 -1 | 6 4 6 2 6 4 4 4 6 4 4 6 4 6 4 4 6 6 | 90 | | | | | | | | | | | | | | | | | |
| 9 10 4 | 8 5 2 6 3 7 1 | 15 | -1 -1 -1 -1 -1 -1 -1 -1 -1 | 4 6 4 4 4 6 2 6 4 6 6 6 4 4 4 6 6 4 4 | 90 | | | | | | | | | | | | | | | | | |
| 10 4 5 | 1 9 6 2 7 3 8 | 16 | 1 -1 -1 -1 -1 -1 -1 -1 1 | 2 4 6 6 6 4 4 4 6 0 8 4 6 6 4 4 4 6 6 | 90 | | | | | | | | | | | | | | | | | |
| 4 5 6 | 9 1 10 7 2 8 3 | 17 | -1 -1 1 -1 -1 -1 -1 -1 -1 | 4 6 4 4 4 2 6 6 4 6 6 6 4 4 6 4 6 4 4 | 90 | | | | | | | | | | | | | | | | | |
| 5 6 7 | 3 10 1 4 8 2 9 | 18 | -1 -1 -1 -1 -1 -1 -1 1 -1 | 4 6 4 4 4 6 6 2 4 6 6 6 4 4 6 4 6 4 4 | 90 | | | | | | | | | | | | | | | | | |
| 6 7 8 | 10 3 4 1 5 9 2 | 19 | -1 -1 -1 -1 1 -1 -1 -1 -1 | 6 4 2 6 6 4 4 4 6 4 4 6 6 4 6 4 4 6 6 | 90 | | | | | | | | | | | | | | | | | |
| 7 8 9 | 2 4 3 5 1 6 10 | 20 | -1 -1 -1 -1 -1 -1 1 -1 -1 | 6 4 6 6 2 4 4 4 6 4 4 6 6 4 6 4 4 6 6 | 90 | | | | | | | | | | | | | | | | | |

| Pars antal møder (M-matrix) | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | | | | | | | | | | | | | | | | | | |
| 1 | 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | | | |
| 2 | 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | | | |
| 3 | 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | | | |
| 4 | 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | | | |
| 5 | 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | | | |
| 6 | 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | | | |
| 7 | 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | | | |
| 8 | 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | | | |
| 9 | 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | | | |
| 10 | 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | | | | | | | | |
| 11 | 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | | | |
| 12 | 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | | | |
| 13 | 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | | | |
| 14 | 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | | | |
| 15 | 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | | | |
| 16 | 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | | | |
| 17 | 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | | | |
| 18 | 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | | | |
| 19 | 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | | | |
| 20 | 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | | | |

Skifteplan fra Groot Schemaboek (N122_Scheveningen_20), men optimeret med pjms+ukd's fv-program:

| Ru | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B9 | B10 |
|----|---------|----------|---------|---------|---------|----------|----------|----------|---------|----------|
| 1 | 11- 1 1 | 12- 2 2 | 3-13 3 | 14- 4 4 | 5-15 5 | 6-16 6 | 7-17 7 | 18- 8 8 | 9-19 9 | 20-10 10 |
| 2 | 1-13 2 | 2-11 3 | 3-12 1 | 4-20 5 | 5-14 6 | 6-15 7 | 7-16 8 | 8-17 9 | 9-18 10 | 10-19 4 |
| 3 | 1-12 3 | 2-13 1 | 3-11 2 | 4-19 6 | 20- 5 7 | 6-14 8 | 15- 7 9 | 16- 8 10 | 9-17 4 | 10-18 5 |
| 4 | 1-16 4 | 2-18 9 | 3-17 10 | 4-15 3 | 5-19 8 | 6-11 5 | 7-20 1 | 8-12 6 | 9-14 2 | 10-13 7 |
| 5 | 1-17 5 | 19- 2 10 | 3-18 4 | 4-13 8 | 5-16 3 | 6-20 9 | 7-11 6 | 8-14 1 | 9-12 7 | 10-15 2 |
| 6 | 1-18 6 | 2-20 4 | 19- 3 5 | 4-16 2 | 5-13 9 | 17- 6 3 | 14- 7 10 | 8-11 7 | 9-15 1 | 10-12 8 |
| 7 | 1-19 7 | 2-14 5 | 3-20 6 | 4-12 9 | 5-17 2 | 13- 6 10 | 7-18 3 | 8-15 4 | 9-11 8 | 16-10 1 |
| 8 | 1-20 8 | 2-15 6 | 3-14 7 | 4-17 1 | 5-12 10 | 6-18 2 | 7-13 4 | 8-19 3 | 9-16 5 | 10-11 9 |
| 9 | 1-14 9 | 2-16 7 | 3-15 8 | 4-11 10 | 5-18 1 | 6-12 4 | 7-19 2 | 8-13 5 | 9-20 3 | 10-17 6 |
| 10 | 1-15 10 | 2-17 8 | 3-16 9 | 4-18 7 | 5-11 4 | 6-19 1 | 7-12 5 | 8-20 2 | 13- 9 6 | 10-14 3 |

| | |
|--------------|-------|
| Middelværdi: | 4,74 |
| Spredning: | 1,30 |
| Skævhed s = | 0,274 |
| Max = | 8 |
| Min = | 0 |
| Qc = | 93,00 |
| Qf = | 93,80 |

Qc = 100 / (1 + s^2)

Bedste oversidder er par 10 (dvs. bord 10 oversidderbord) eller evt. 11/16:

Qf1 = 91,07, d4 = 1,80, s = 0,33

Værste oversidder er par 3/4/8/15/20:

Qf1 = 89,58, d4 = 1,96, s = 0,36