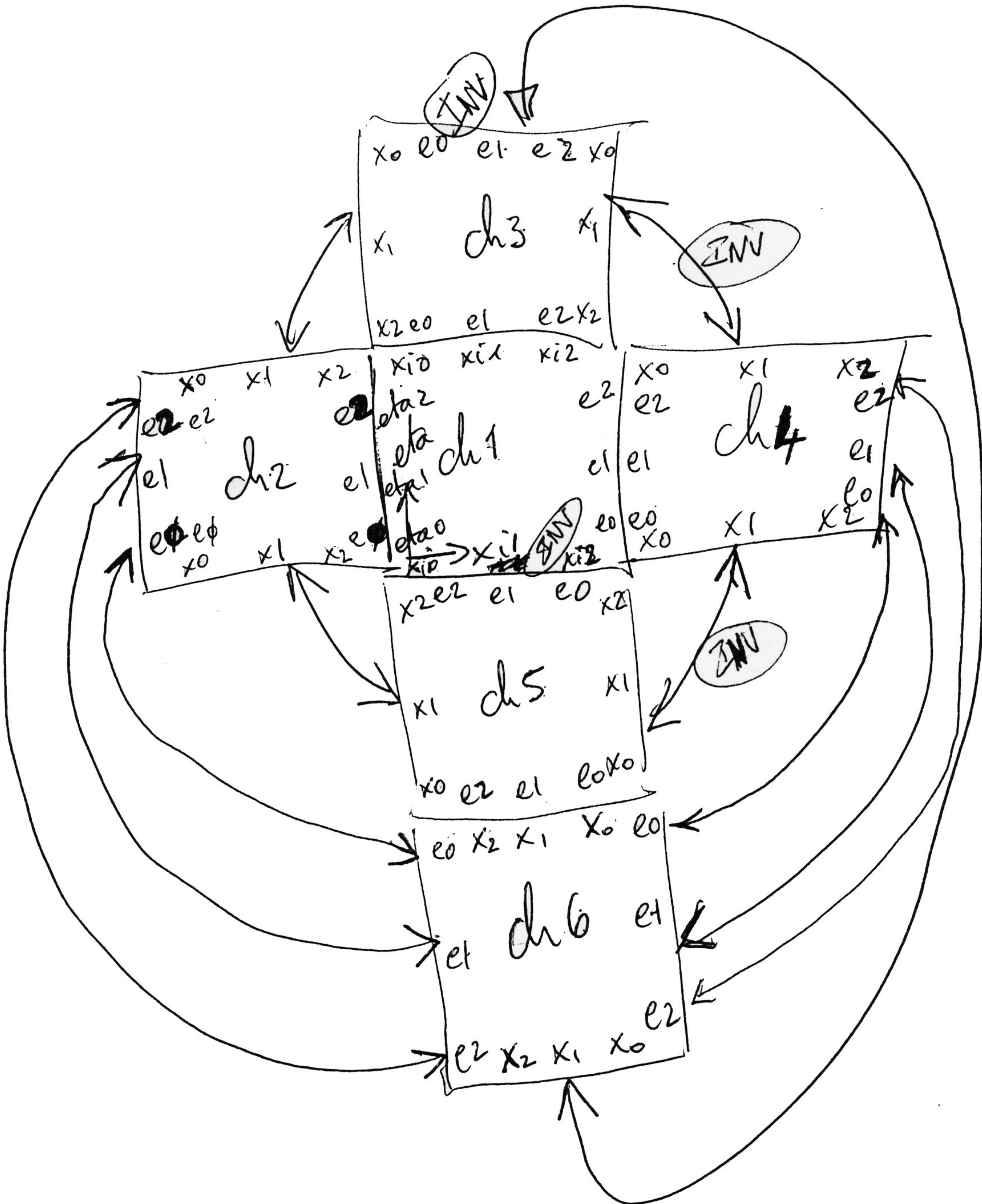


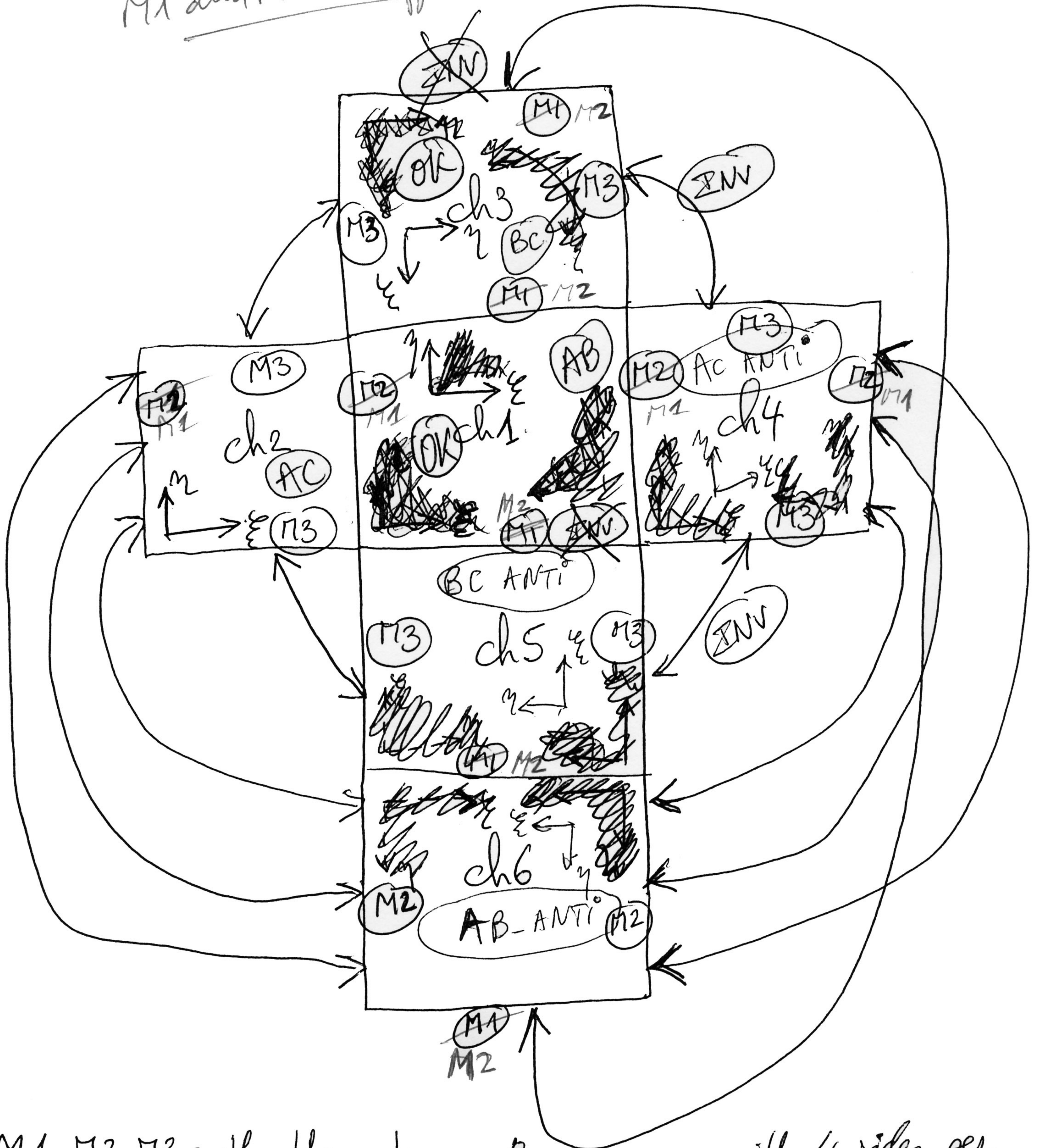
New communication pattern / no deadlock :





New communication pattern / no deadlock:  
with orientation and origin of the local frame

M1 and M2 swapped on March 16, 2004



M1, M2, M3: the three types of messages, with 4 sides per message type (total  $4 \times 3 = 12$  messages = 12 sides for the 6 channels)



# The three types of messages:

type M1 <sup>M2</sup>

|       | chunk | face         |
|-------|-------|--------------|
| msg 1 | 1     | $\eta_{max}$ |
| msg 2 | 1     | $\eta_{min}$ |
| msg 3 | 3     | $\xi_{min}$  |
| msg 4 | 5     | $\xi_{min}$  |

| chunk | face         |
|-------|--------------|
| 3     | $\xi_{max}$  |
| 5     | $\xi_{max}$  |
| 6     | $\eta_{max}$ |
| 6     | $\eta_{min}$ |

M1 and M2 swapped on March 17, 2004

type M2 <sup>M1</sup>

|       | chunk | face        |
|-------|-------|-------------|
| msg 1 | 1     | $\xi_{min}$ |
| msg 2 | 1     | $\xi_{max}$ |
| msg 3 | 2     | $\xi_{min}$ |
| msg 4 | 4     | $\xi_{max}$ |

| chunk | face        |
|-------|-------------|
| 2     | $\xi_{max}$ |
| 4     | $\xi_{min}$ |
| 6     | $\xi_{max}$ |
| 6     | $\xi_{min}$ |

type M3

|       | chunk | face         |
|-------|-------|--------------|
| msg 1 | 2     | $\eta_{max}$ |
| msg 2 | 2     | $\eta_{min}$ |
| msg 3 | 3     | $\eta_{max}$ |
| msg 4 | 4     | $\eta_{min}$ |

| chunk | face         |
|-------|--------------|
| 3     | $\eta_{min}$ |
| 5     | $\eta_{max}$ |
| 4     | $\eta_{max}$ |
| 5     | $\eta_{min}$ |