

$$Lop = LLKp + MM$$

$$Lsp = \frac{1}{\frac{1}{LLKs} + \frac{1}{MM}} + LLKp$$

...The origins...

$$Los = \frac{LLKs}{NN} + \frac{MM}{NN}$$

$$Lss = \frac{1}{\frac{LLKp}{NN} + \frac{MM}{NN}} + \frac{LLKs}{NN}$$

4 equations with 4 unknowns

...trying a solution analytically...

$$Lop = LLKp + MM \xrightarrow{\text{solve, MM}} Lop - LLKp$$

$$MM = Lop - LLKp$$

extracting MM from Lop

$$Lsp = \frac{1}{\frac{1}{LLKs} + \frac{1}{MM}} + LLKp$$

$$Lsp = LLKp + \frac{1}{\frac{1}{LLKs} + \frac{1}{Lop - LLKp}}$$

setting MM in the equation Lsp

$$Los = \frac{LLKs}{NN} + \frac{MM}{NN}$$

$$Los = \frac{LLKs}{NN} + \frac{Lop - LLKp}{NN}$$

setting MM in the equation Los

$$Lss = \frac{1}{\frac{LLKp}{NN} + \frac{MM}{NN}} + \frac{LLKs}{NN}$$

$$Lss = \frac{LLKs}{NN} + \frac{1}{\frac{LLKp}{NN} + \frac{1}{Lop - LLKp}}$$

setting MM in the equation Lss

3 equations with 3 unknowns

$$NN = \frac{Lop - LLKp + LLKs}{Los}$$

extracting NN from Los

$$Lsp = LLKp + \frac{1}{\frac{1}{LLKs} + \frac{1}{Lop - LLKp}}$$

$$Lsp = LLKp + \frac{1}{\frac{1}{LLKs} + \frac{1}{Lop - LLKp}} \quad (I)$$

setting NN in the equation Lsp

$$Lss = \frac{LLKs}{NN} + \frac{1}{\frac{LLKp}{NN} + \frac{1}{Lop - LLKp}}$$

$$Lss = \frac{Los \cdot (-LLKp^2 + Lop \cdot LLKp + Lop \cdot LLKs)}{Lop \cdot (Lop - LLKp + LLKs)} \quad (II)$$

setting NN in the equation Lss

2 equations with 2 unknowns

now we get two solutions from equation (I) for LLKp:

$$LLKp_1 = \frac{Lop}{2} + \frac{Lsp}{2} + \frac{\sqrt{(Lop - Lsp) \cdot (Lop - Lsp + 4 \cdot LLKs)}}{2}$$

$$LLKp_2 = \frac{Lop}{2} + \frac{Lsp}{2} - \frac{\sqrt{(Lop - Lsp) \cdot (Lop - Lsp + 4 \cdot LLKs)}}{2}$$

LLKp₁ setting into Lss (equation (II)) to get LLKs

$$Lss = \frac{Los \cdot (-LLKp_1^2 + Lop \cdot LLKp_1 + Lop \cdot LLKs)}{Lop \cdot (Lop - LLKp_1 + LLKs)}$$

$$Lss = \frac{Lsp \cdot Los}{Lop}$$

This is no solution.

LLKp₂ setting into Lss (equation (II)) to get LLKs

$$Lss = \frac{Los \cdot (-LLKp_2^2 + Lop \cdot LLKp_2 + Lop \cdot LLKs)}{Lop \cdot (Lop - LLKp_2 + LLKs)}$$

$$Lss = \frac{Lsp \cdot Los}{Lop}$$

This is no solution too.

quod erat demonstrandum

we need an appropriate equation-System!