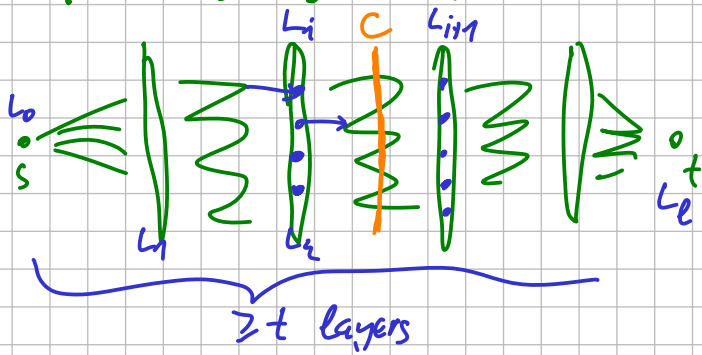


Stop D. after first t phases & look at $R \dots l \geq t+1$



diff. betw. f and $f_{\max} \rightarrow$ a flow g in R
 $\# \text{ phases remaining} \leq |f_{\max}| - |f| = |g| \leq r(Cut)$
 find small cut

$$\# \text{ phases} \leq t + \frac{n^2}{t^2} \in O(n^{2/3})$$

$$p_i := |L_i| + |L_{i+1}|$$

$$\sum_i p_i \leq 2n \xrightarrow{\text{PHP}} \exists i : p_i \leq \frac{2n}{t}$$

$$\# \text{ edges in } C \leq |L_i| \cdot |L_{i+1}| \leq \left(\frac{n}{t}\right)^2 = \frac{n^2}{t^2}$$

$$t = \frac{n^2}{t^2}$$

$$t^3 = n^2$$

$$t = n^{2/3}$$