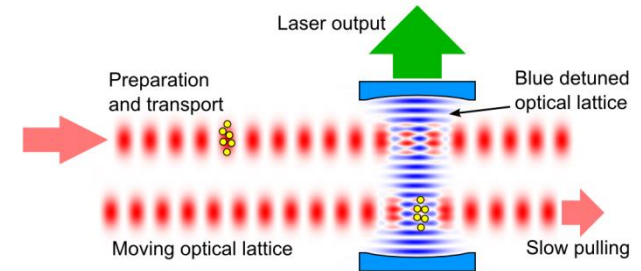


# Active optical frequency standards with trapped atoms: approaches and difficulties

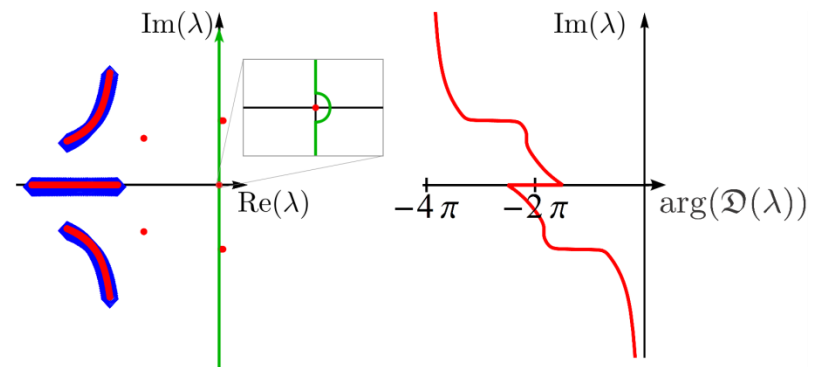
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- Active optical frequency standard:  
Idea, schemes and main difficulties



- Instabilities in bad cavity lasers with  
inhomogeneous broadening:  
Semiclassical equations, numerical approach

$$\mathbb{L} = \left[ \begin{array}{c|ccc} \mathbb{K} & \mathbb{G}^{(1)} & \dots & \mathbb{G}^{(N)} \\ \hline \mathbb{D}^{(1)} & \mathbb{A}^{(1)} & \dots & 0 \\ \vdots & \vdots & \dots & \vdots \\ \mathbb{D}^{(N)} & 0 & \dots & \mathbb{A}^{(N)} \end{array} \right]$$



- Laser with incoherently pumped spin-1/2  
atoms:  
Steady-state solutions, stability domains

