

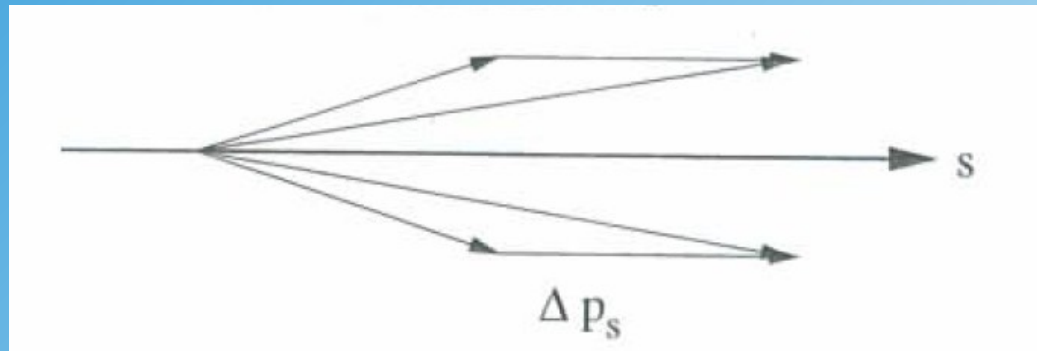
Accelerator Physics

Lecture 9

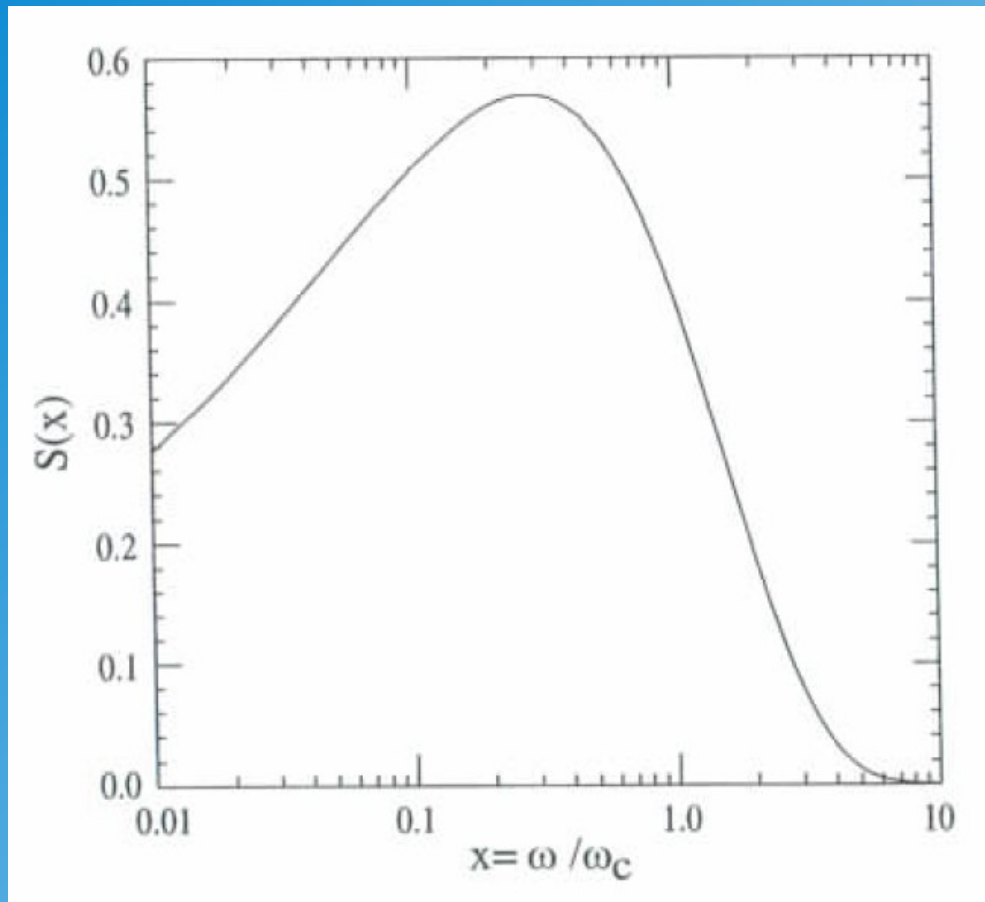
Phase Space and Beam Cooling

- Liouville Theorem
- Adiabatic Damping
- Synchrotron Damping
- Electron Cooling

Adiabatic Damping

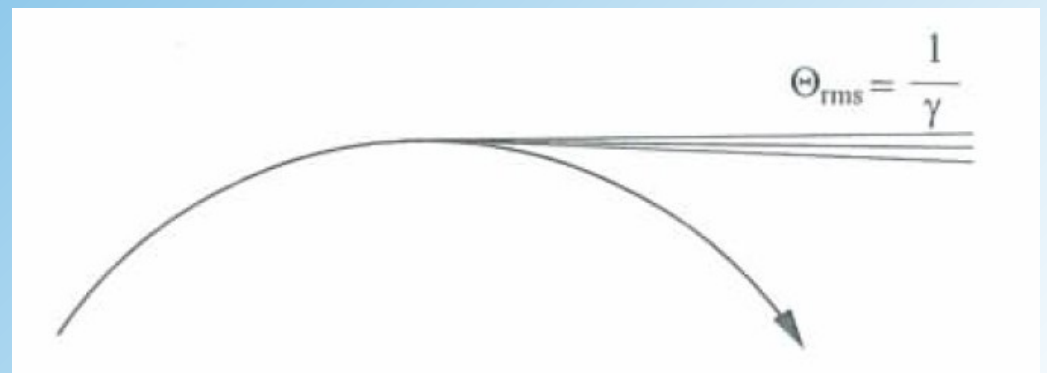


Synchrotron Radiation Damping



photon energy spectrum

emission of light



Electron Cooling

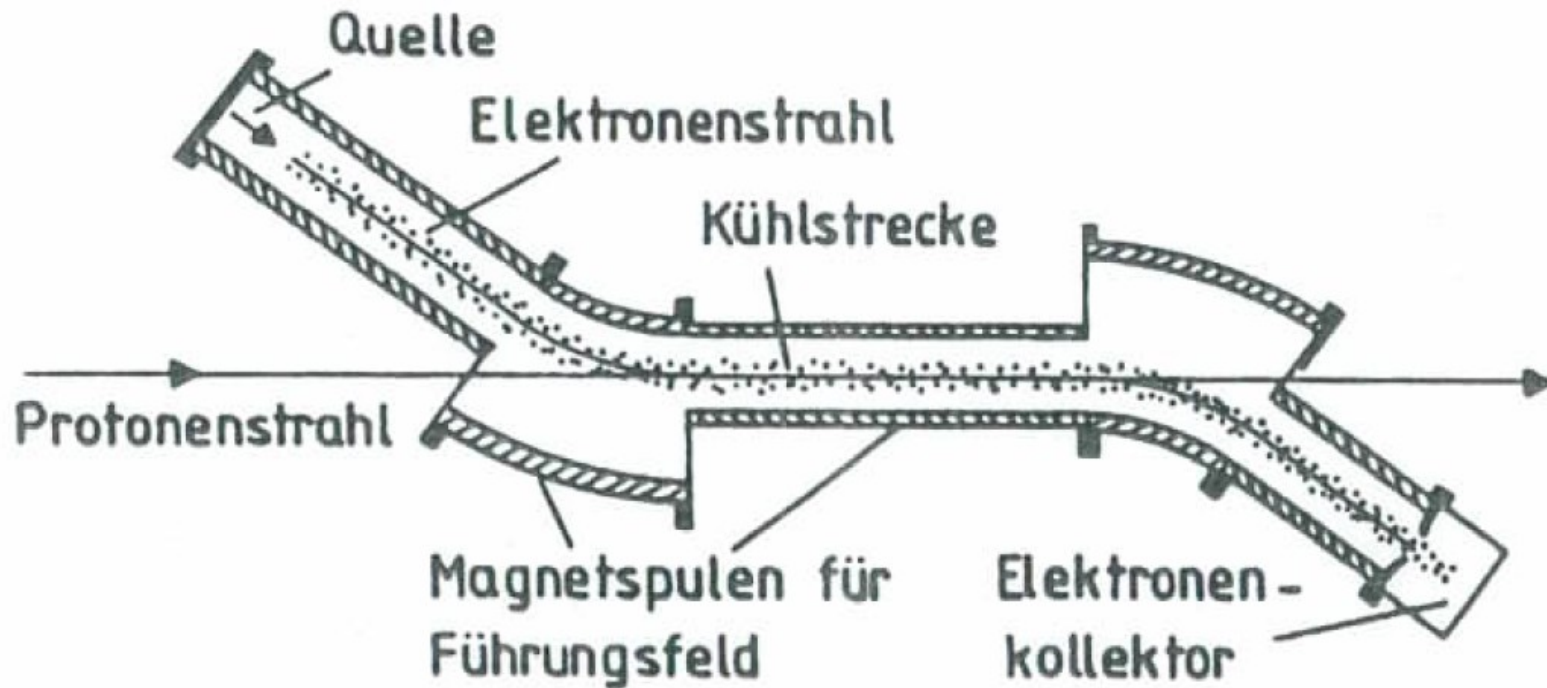
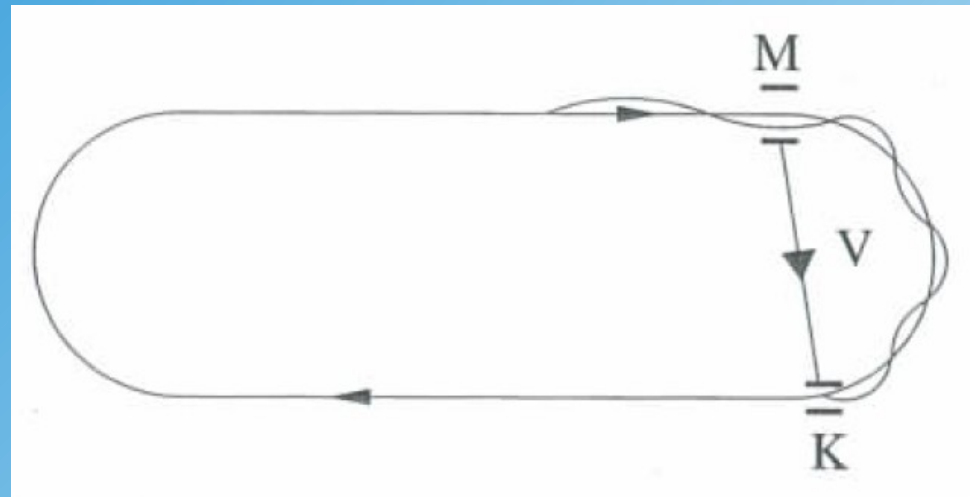


Abb. 10.5. Schema eines Elektronenkühlers. Die Länge der Kühlstrecke liegt üblicherweise bei 1 m bis 2 m

Stochastic Cooling

M=Monitor



K = Kicker Magnet

