

List of Topics

- A. Accretion
 - 1. Basic model of accretion disks
 - 2. Emission
- B. AGN
 - 1. Basic phenomenology
 - 2. Jet, BLRs, NLRs
 - 3. Unified model
- C. Neutron stars + pulsars
 - 1. Pulsar emission mechanisms
 - 2. Observations
 - 3. dispersion measure
 - 4. Goldreich-Julian
 - 5. Pulsar kicks
- D. Supernovae
 - 1. Observations and classification
 - 2. Emission models
 - 3. Explosion models
- E. CRs
 - 1. Obs. (energy, composition, anisotropy)
 - 2. Propagation properties in the Galaxy
 - 3. Gamma ray observations
 - 4. Sources
- F. GWs
 - 1. Derivation
 - 2. Experiments
 - 3. Sources
- G. Neutrinos
 - 1. Solar + mass
 - 2. Low energy experiments
 - 3. High energy neutrinos
- H. Gravitational lensing
 - 1. Derivation from GR.
 - 2. Weak and strong lensing
 - 3. Applications
- I. GRBs
 - 1. Obs. of prompt emission and AG
 - 2. Long and short
 - 3. Models
 - 4. SN-GRB relation