V. Berezinsky: Five lectures on UHECR

Content:

- History, methods of CR observations, from on-ground to space detectors.
- Acceleration of particles to UHE. Problems of shock acceleration.
- **Cosmological origin of UHE particles:**
  Topological defects: ordinary and superconducting strings, cusps.
- **Superheavy particles** ($m_X \gtrsim 10^{13}$ GeV):
  cosmological production,
  Superheavy Dark Matter,
  Gammas and neutrinos,

- **UHECR: Propagation and Signatures**
  mass composition: observations and models,
  propagation,
  problems in UHECR.