Active Galaxies

Distant galaxies ⇒ _________ galaxies ⇒ _________ galaxies

Active Galaxies

_________ Energy outputs
Energy/Light of _________ wavelengths
_________ energy output

Active Galactic Nuclei (AGN)

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BL Lacs – Blazars
– ________________
– ________________

Seyferts – Type I and II
– Bright, variable core
– ________________
– Unusual energy output – ________________

Radio Galaxies
– Large amount of radio light

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Seyfert Normal Galaxy
Quasars

Quasi-stellar objects (QSO) - Quasars
Look like stars (points)
Unusual spectra
Or is it?
**High redshift** - high velocity away
Quasars –
Characteristics
  High redshift
  ________distance implied (by Hubble's law)
  Not very faint ⇒ __________________
  Small energy source
  High velocities in source

Model for Active Galaxies

BL Lac, Seyfert, Radio Galaxies, Quasars
All different?
Or all the same?
Different models or a single model?
What would be in this model?

Black hole
Accretion disk
High velocity clouds
Low velocity clouds
Dusty torus (donut)
Jets
Gravitational Lensing
Einstein’s General Relativity on a cosmic scale

Einstein Ring Gravitational Lenses
Hubble Space Telescope - Advanced Camera for Surveys