

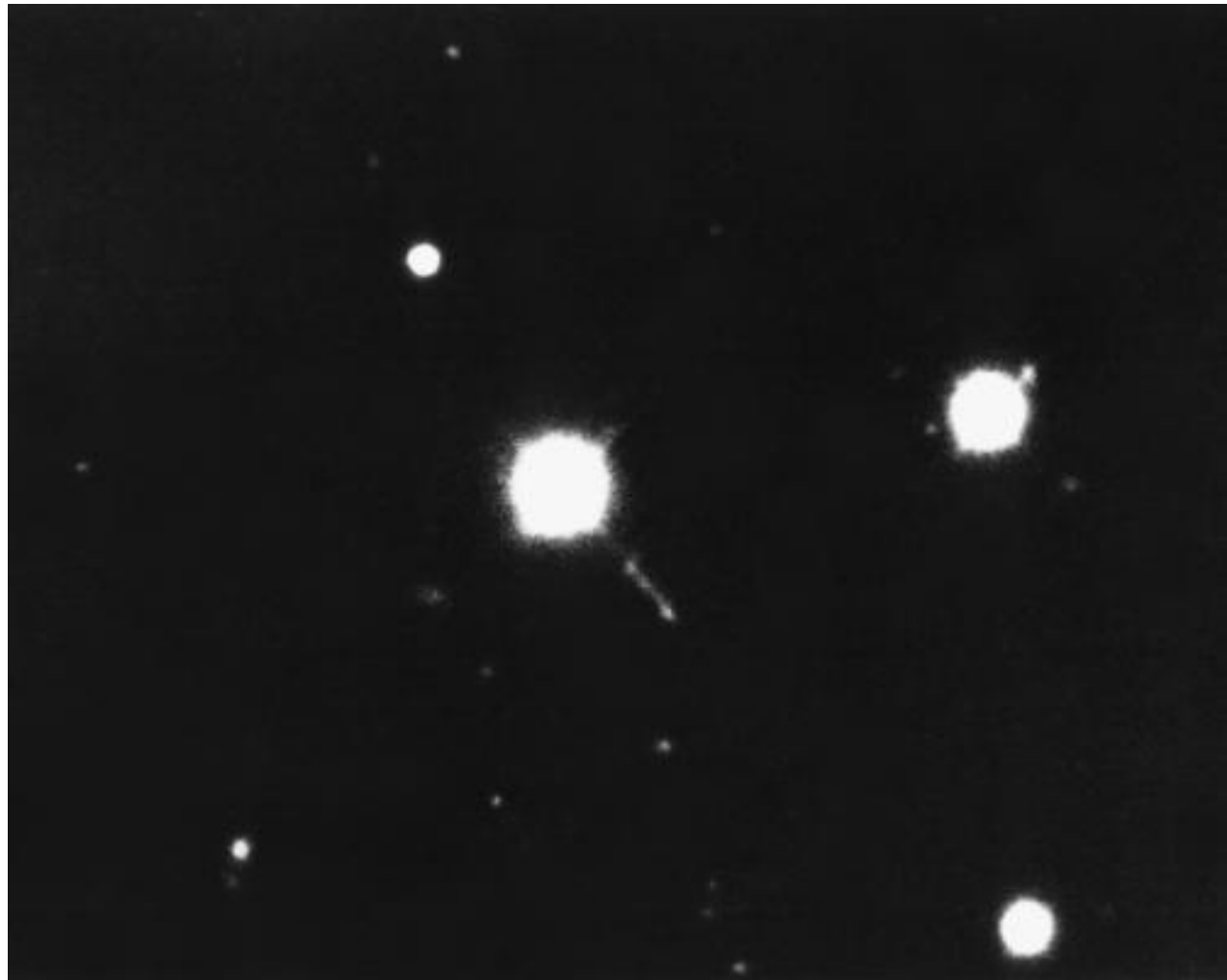
AGA0101

2.1 Quasars

A localização precisa de radiofontes: ocultação lunar

3C 273 – o primeiro Quasar (objeto quase-estelar) descoberto - 1963

Objeto 273 do Catálogo nr. 3 de Cambridge (de raiofontes)

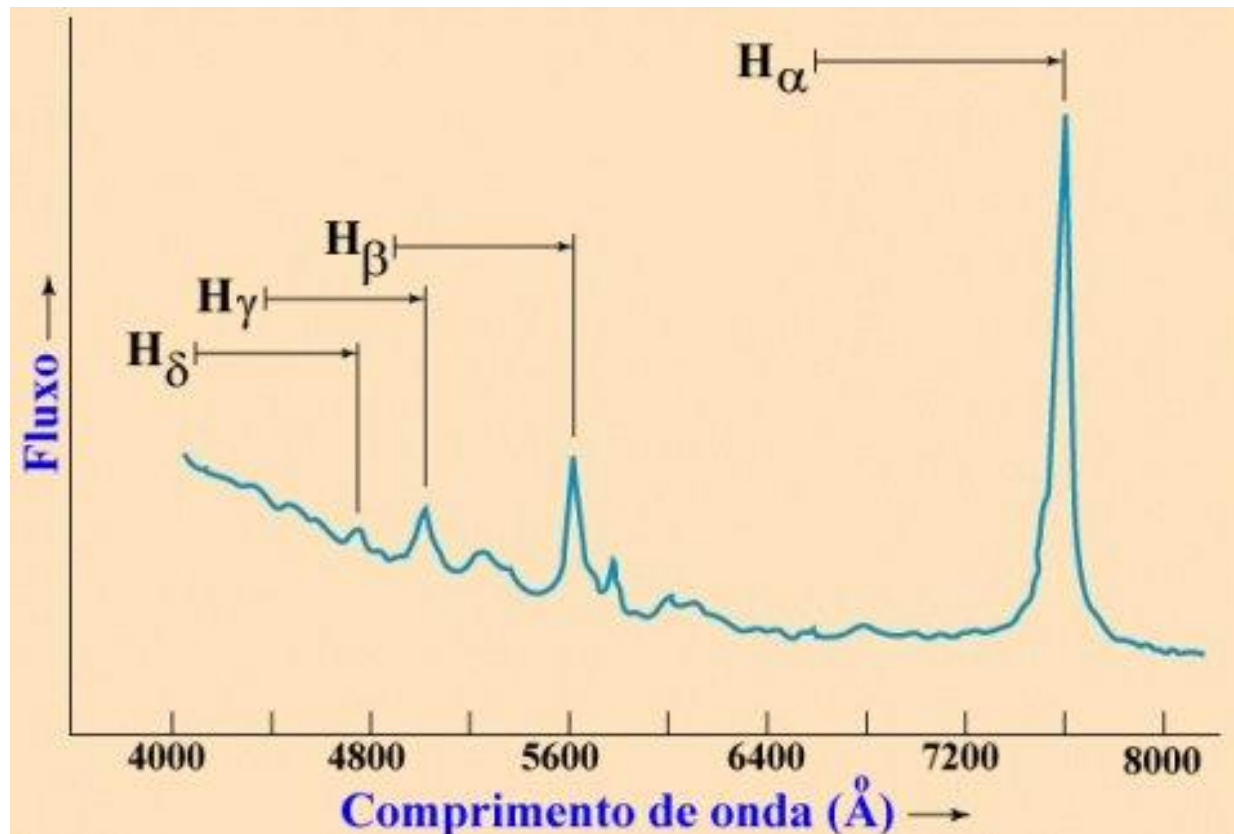


# O espectro do primeiro quasar: 3C 273

redshift  $z = \Delta\lambda/\lambda = v/c = 0.158$

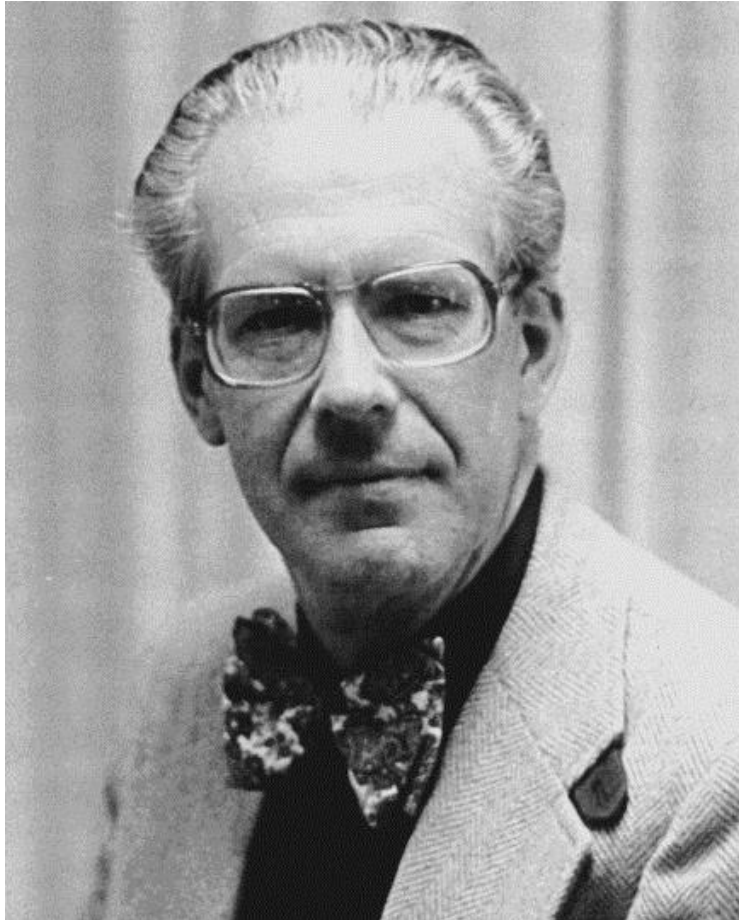
distância de 2.4 bilhões de anos-luz

luminosidade = 1000 galáxias



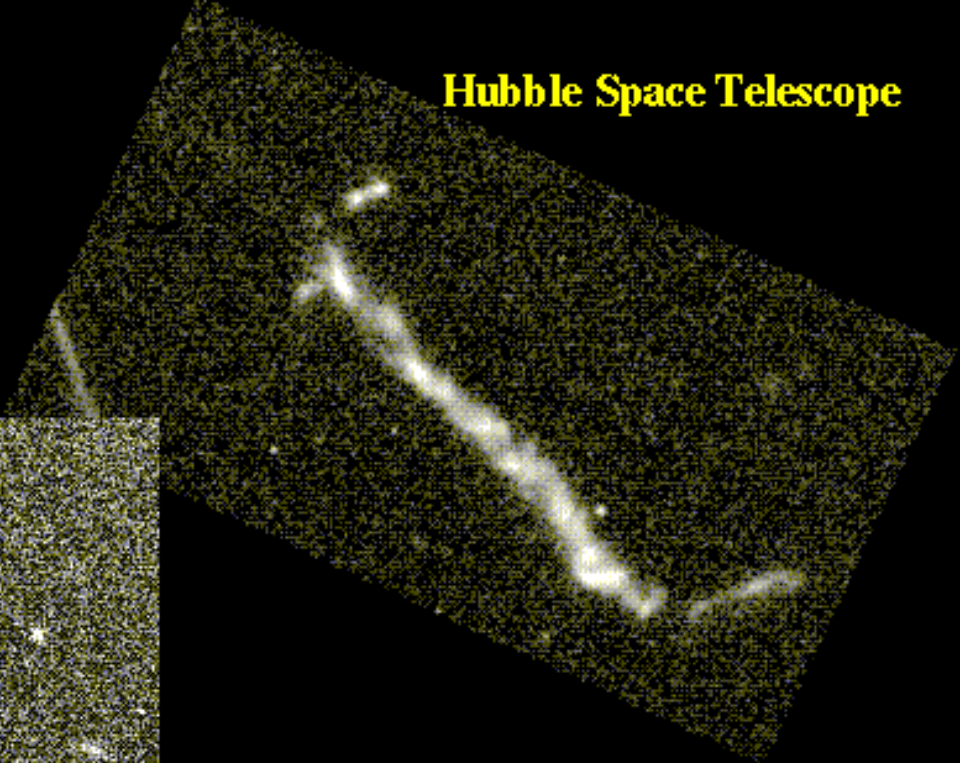
Maarten Schmidt (1929-)

em 1963

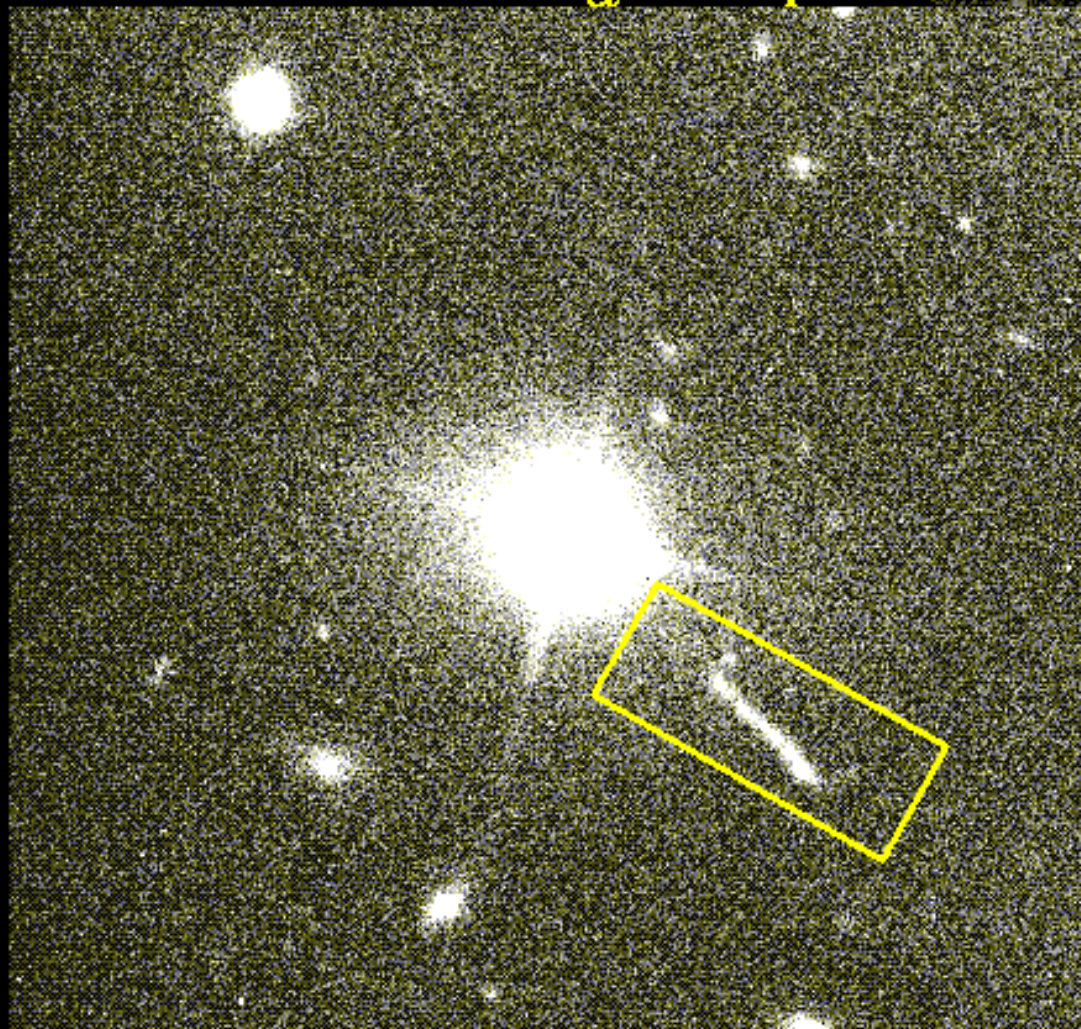


# 3C 273 and its Jet

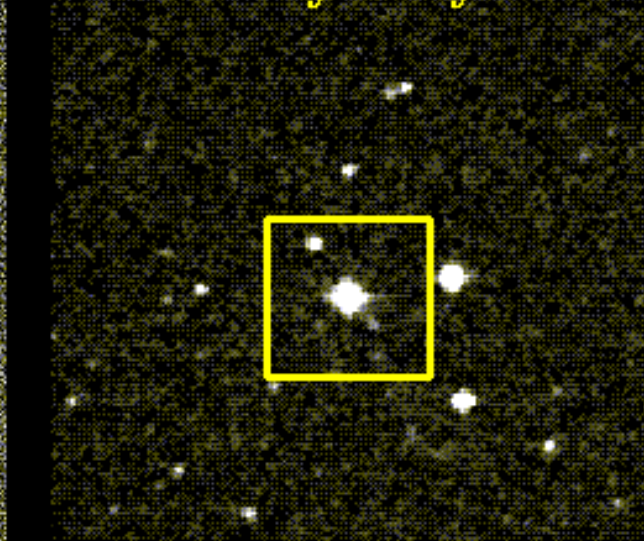
Hubble Space Telescope



ESO New Technology Telescope

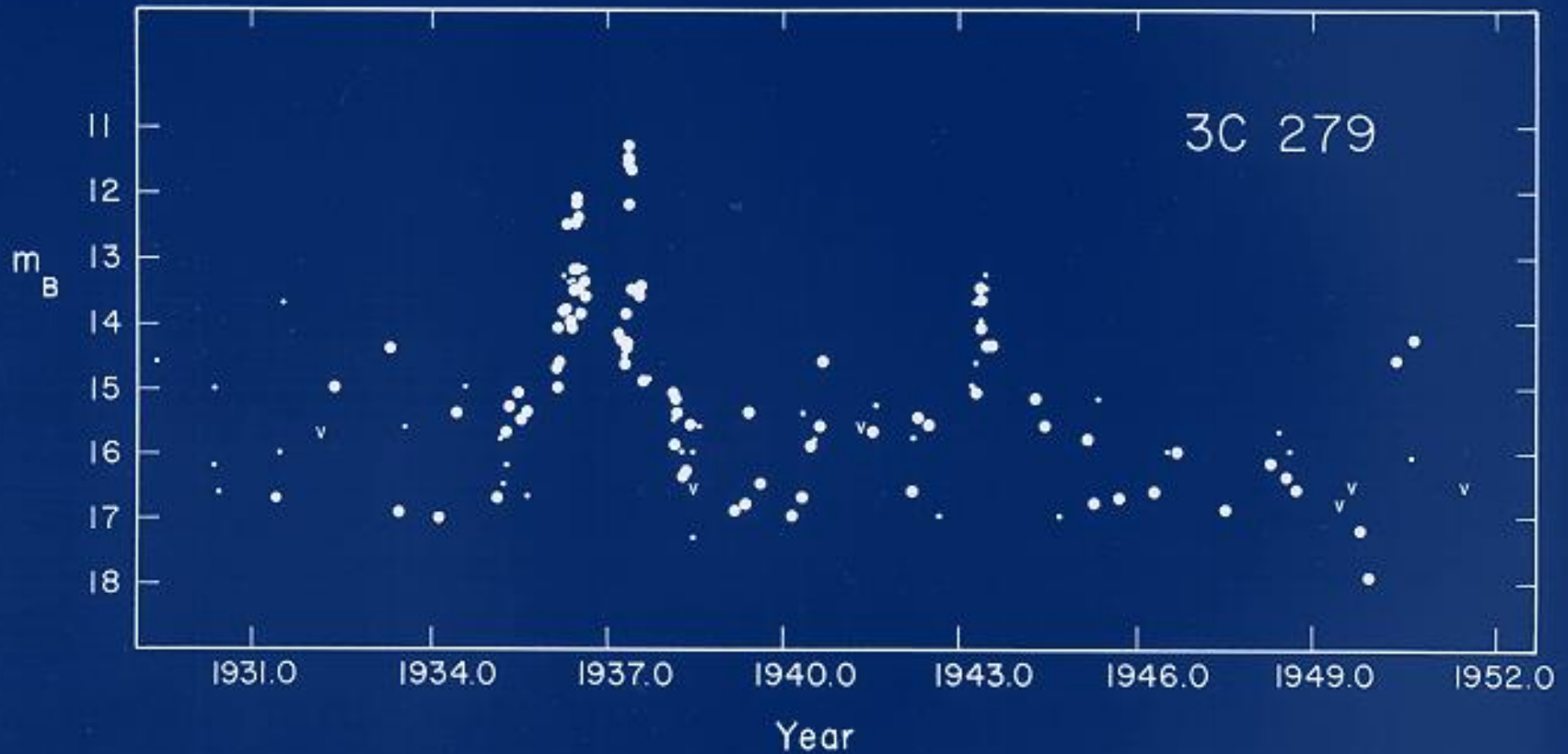


Palomar Sky Survey

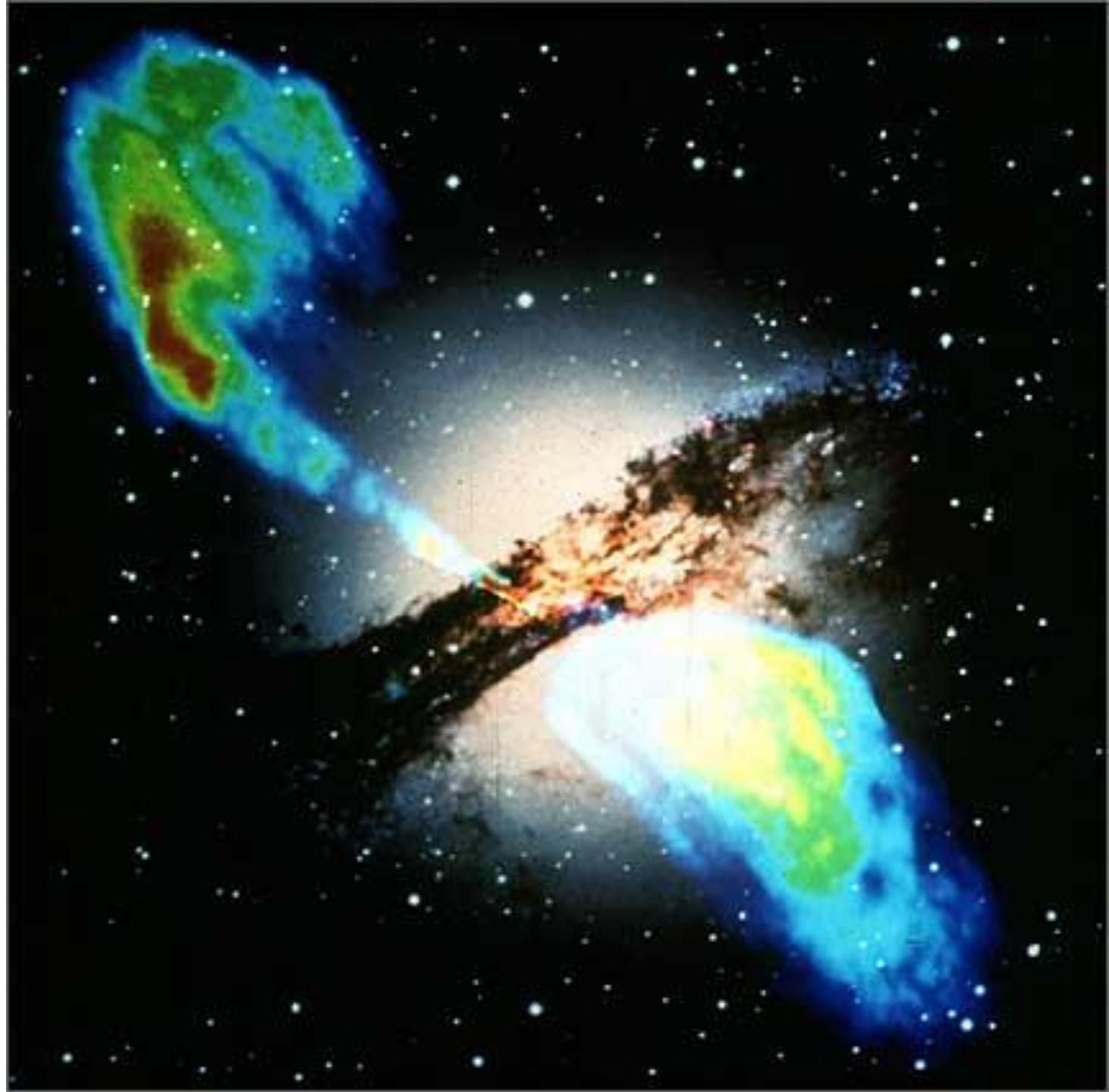


# 3C 279 - A variabilidade e a escala de tempo

$l \sim ct$  (meses-luz)



Centaurus A



Quasar: rádio emissão  
3C175  $z=0.77$   $V=16.6$

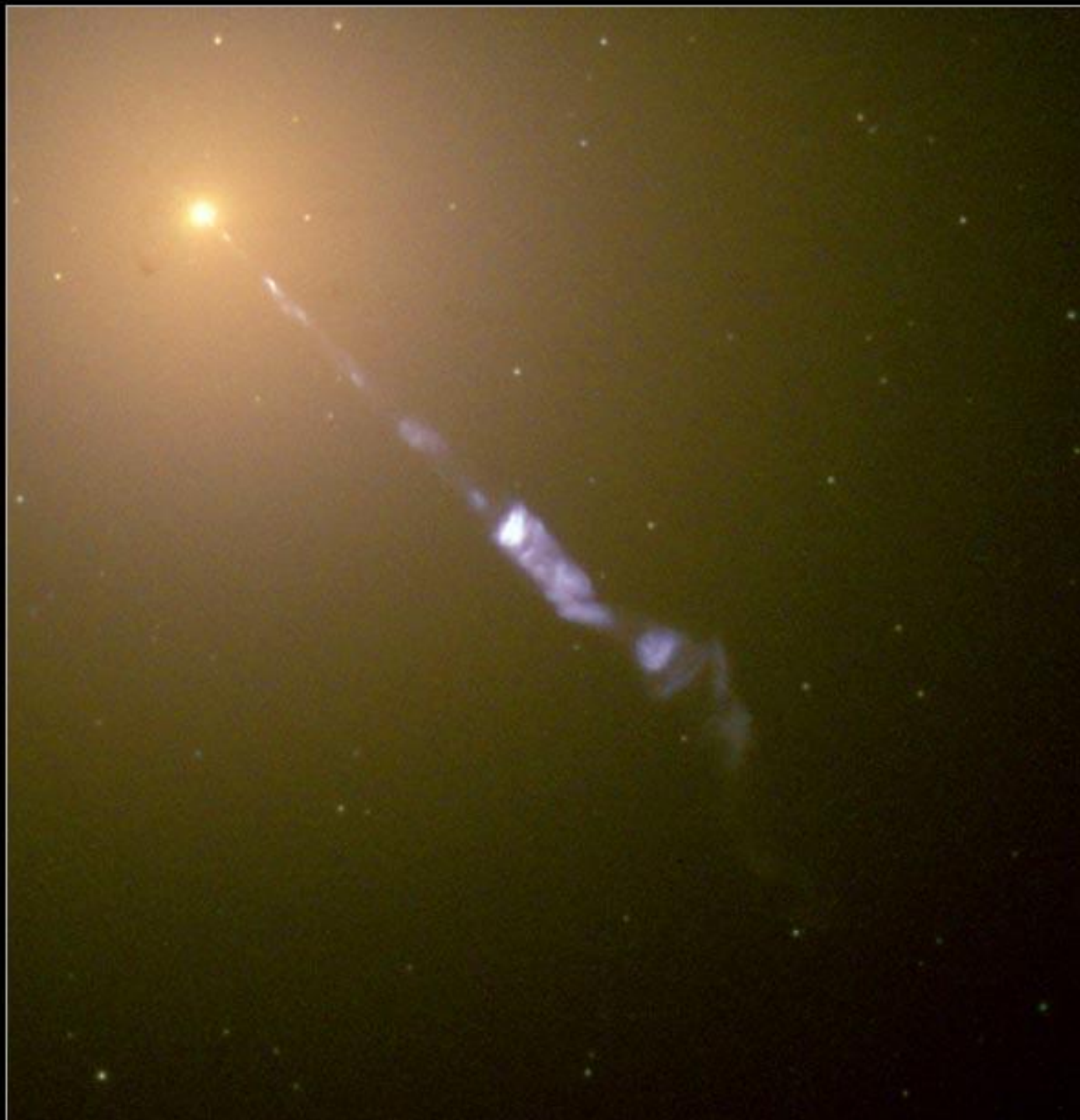


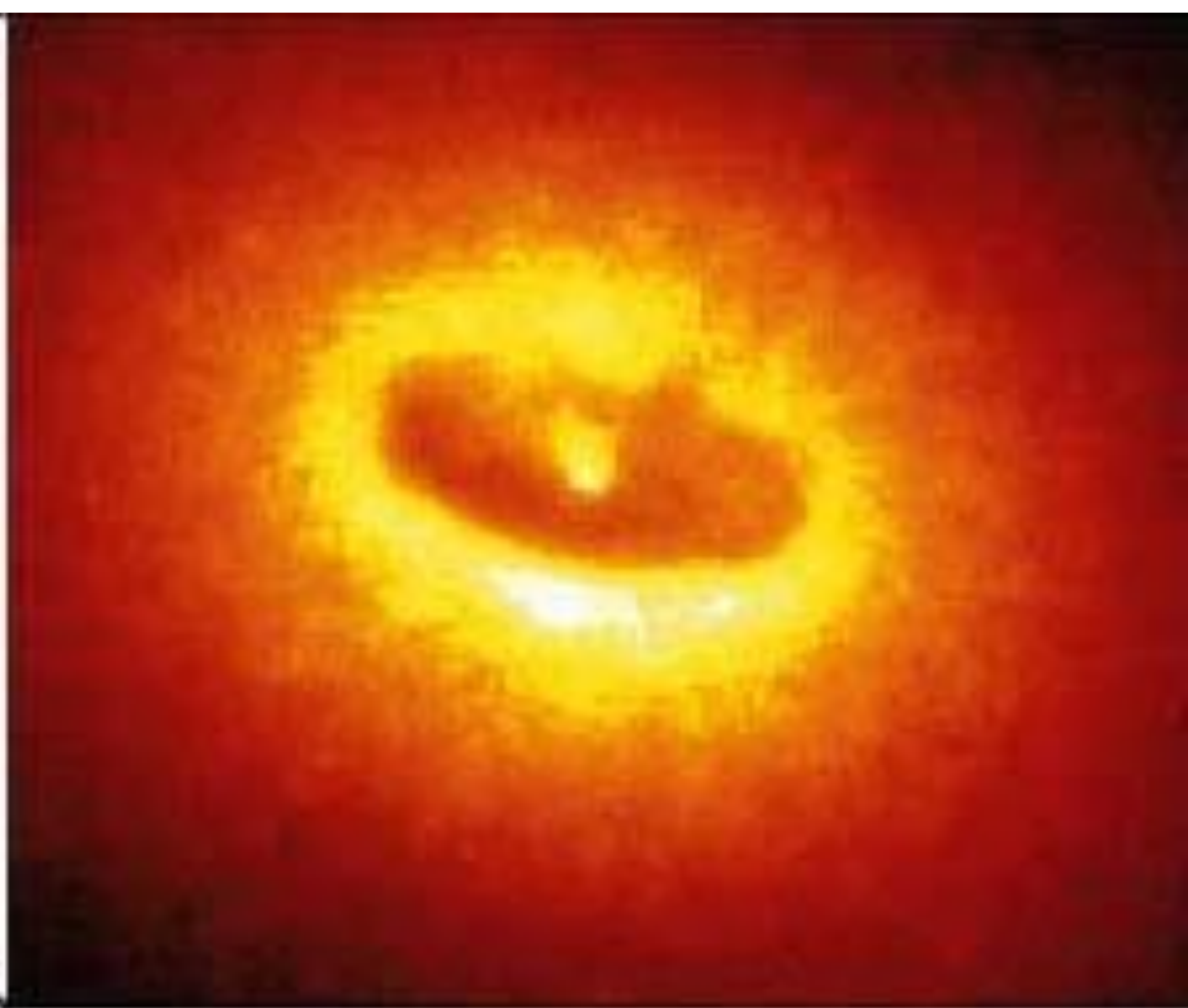
Quasar 3C175

VLBA 6cm image (c) NRAO 1996



M 87



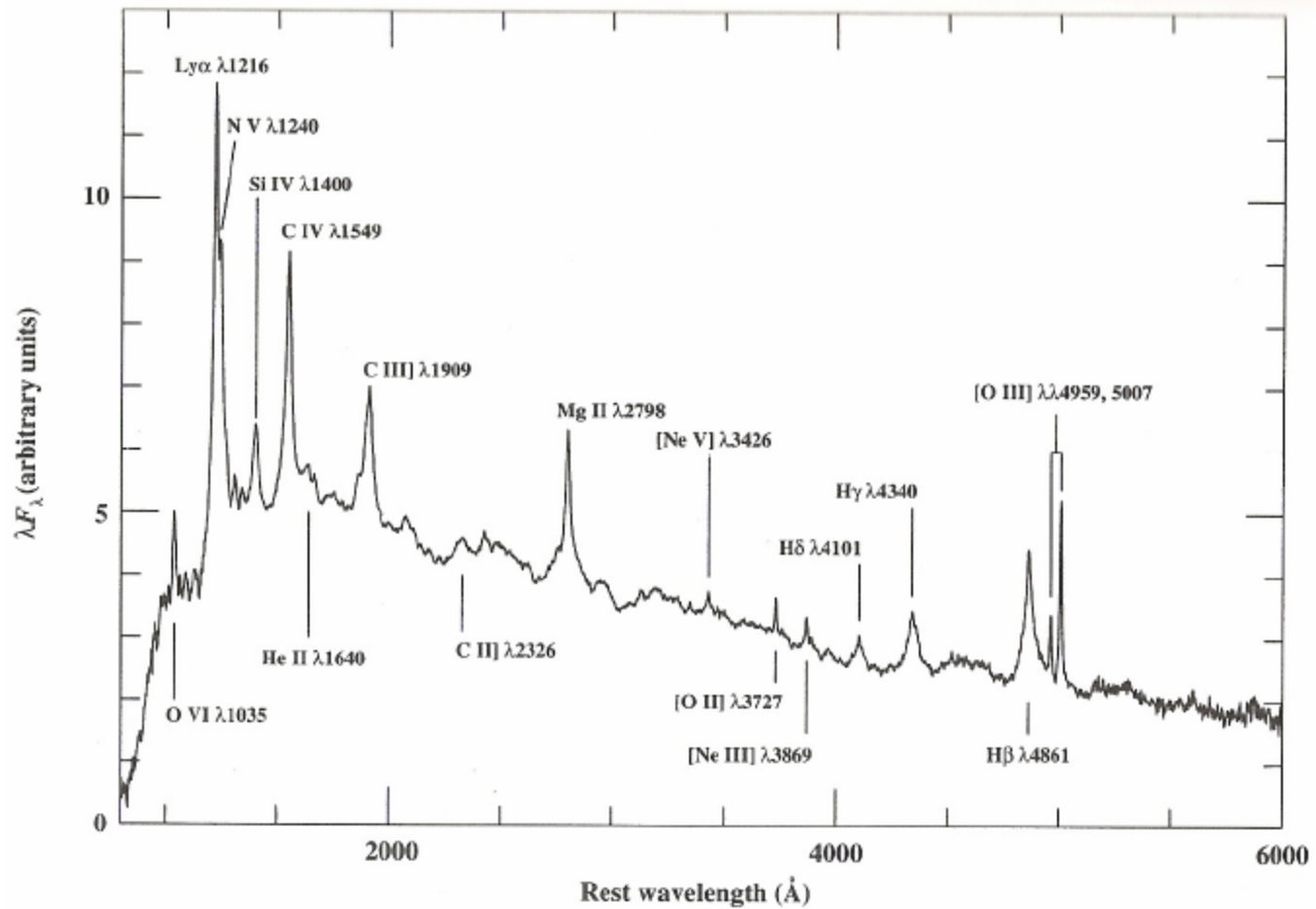


Quasares fortes emissores em rádio: 10%

Quasares fracos emissores em rádio: 90%

Quasares emitem em todo o espectro eletromagnético

# Espectro médio de mais de 700 quasares



# Quasares x buracos negros

