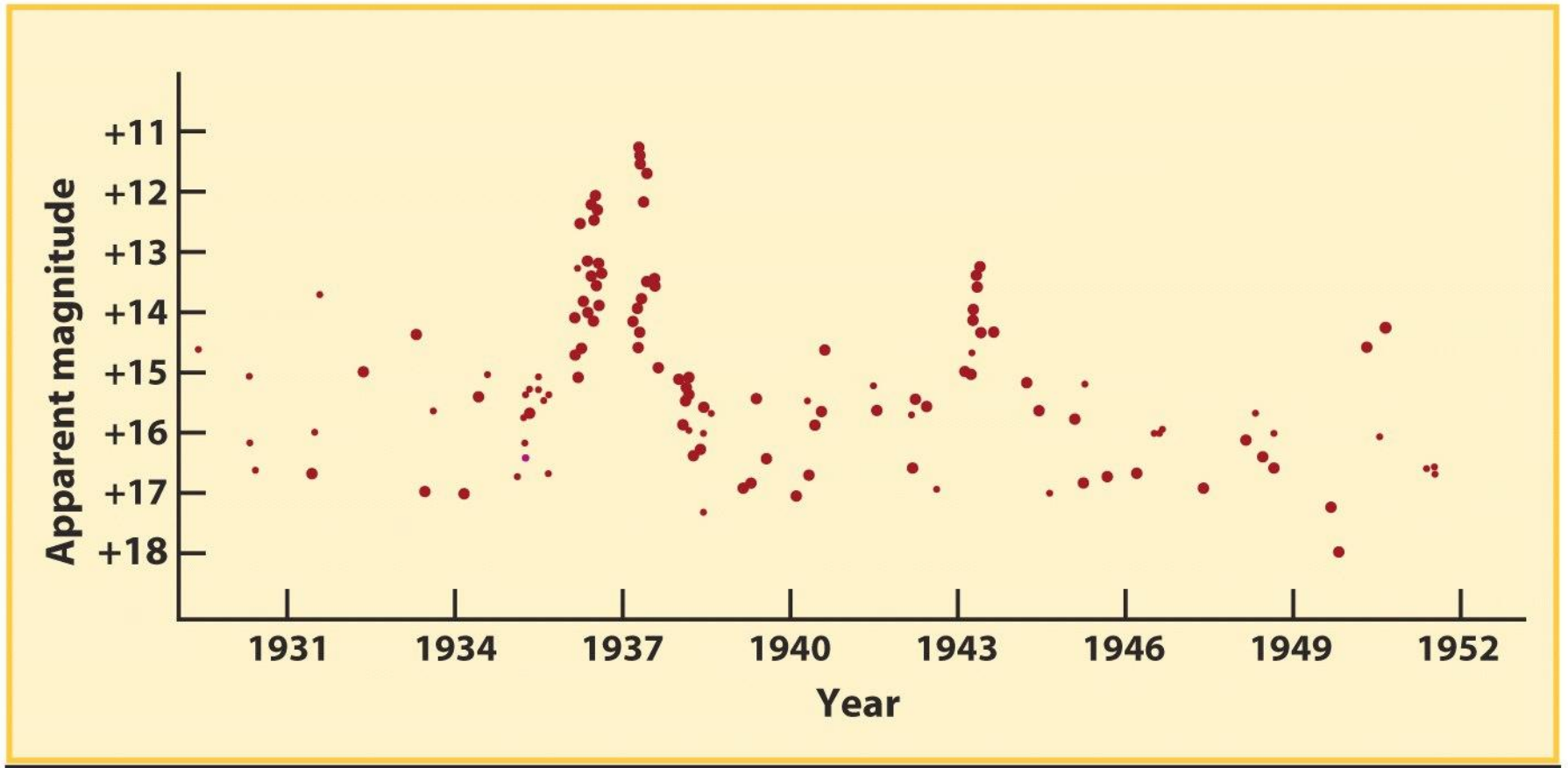


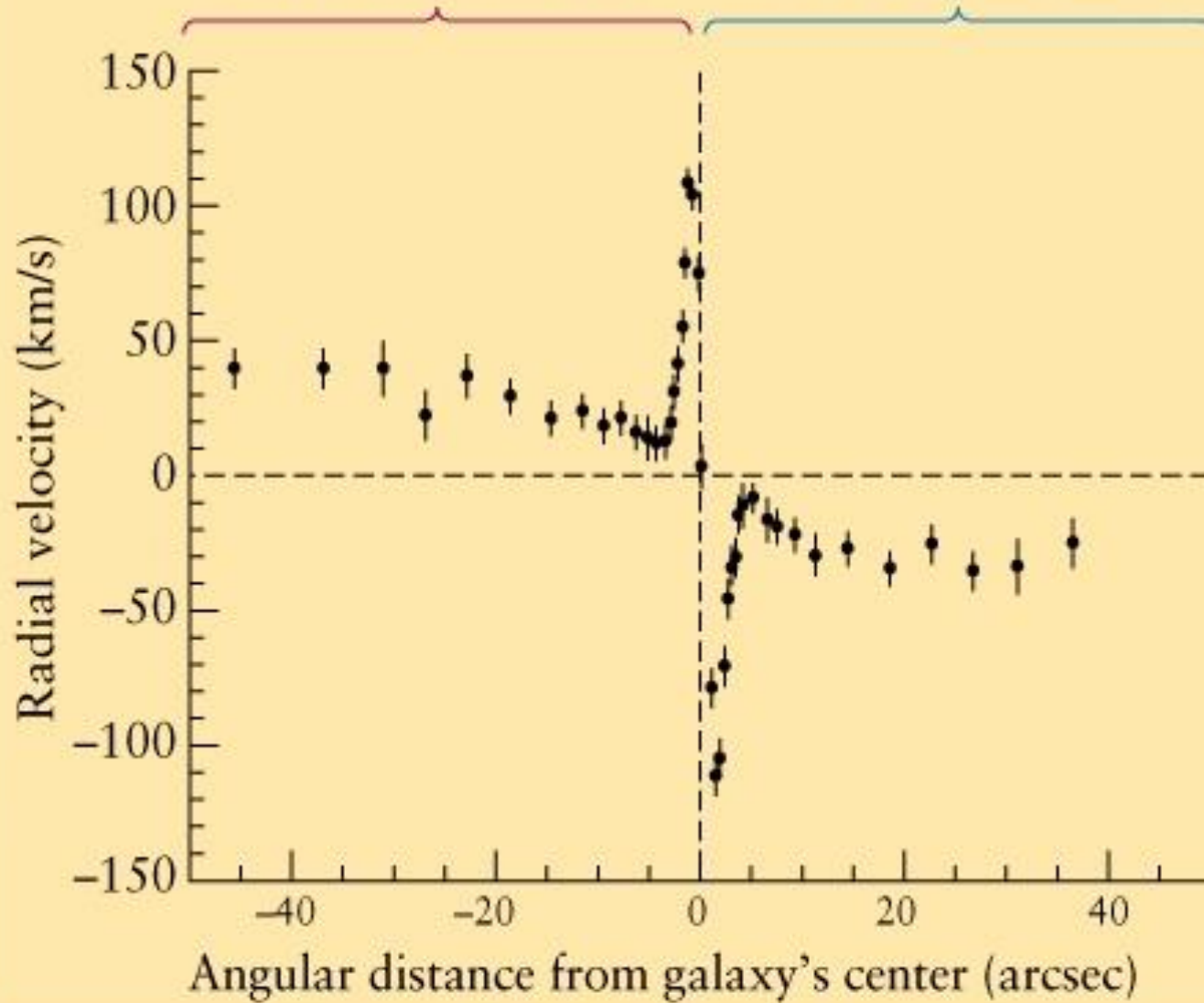
Active galaxy optical spectrum showing broad emission line (Zeilik Fig 24-2)



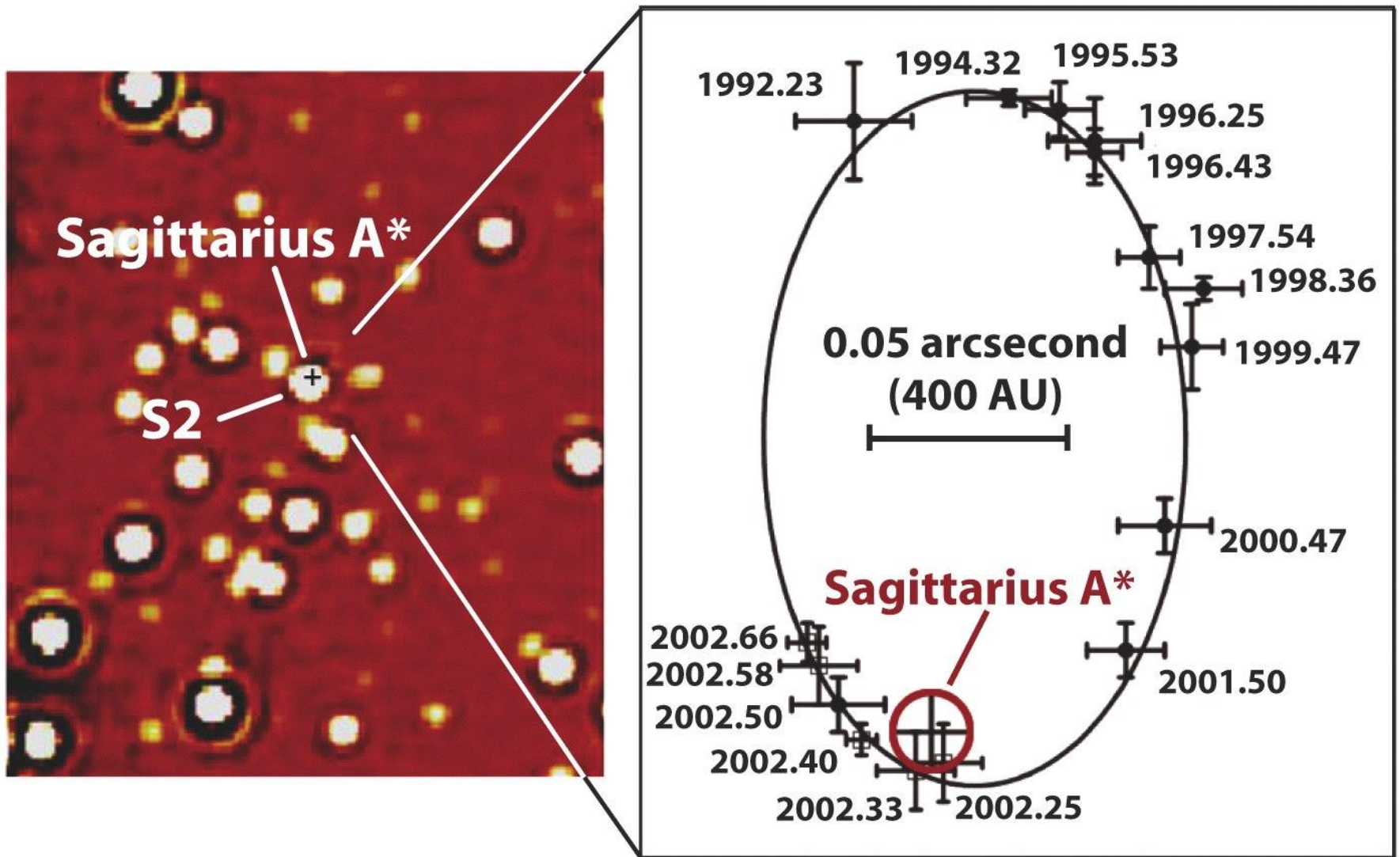
Light curve showing the variability of the continuum for an AGN

This side of the galaxy  
is receding from us  
(its light is redshifted)

This side of the galaxy  
is approaching us  
(its light is blueshifted)



Stellar radial  
velocities in  
the core of  
M31



- Stellar orbits prove our Galaxy has a  $4 \times 10^6 M_{\odot}$  black hole at the centre

Genzel MPE,  
Garching