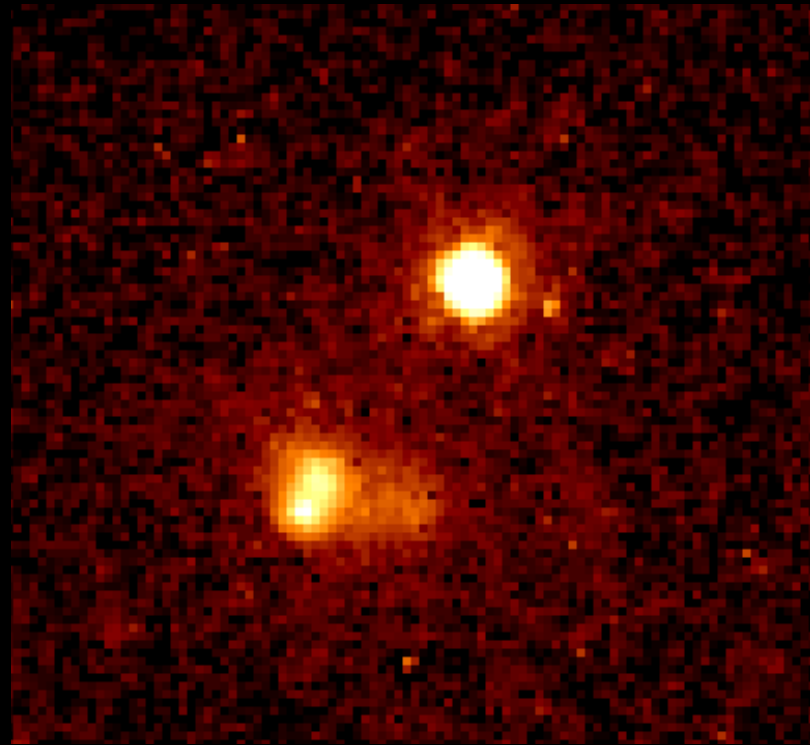
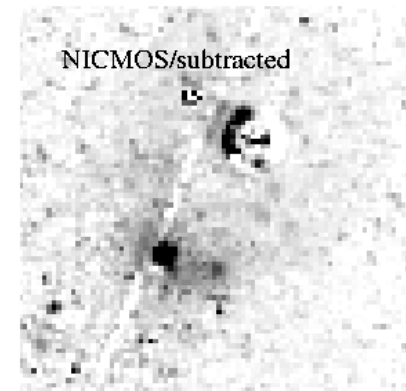
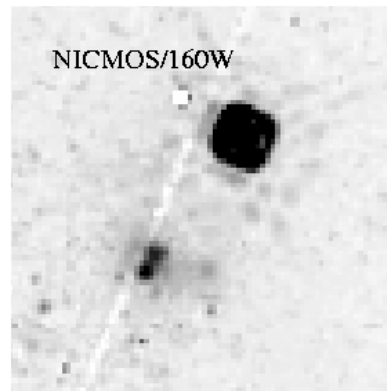
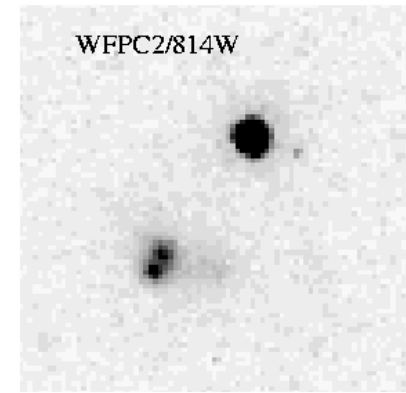
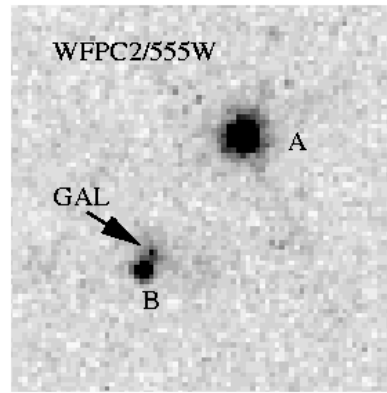
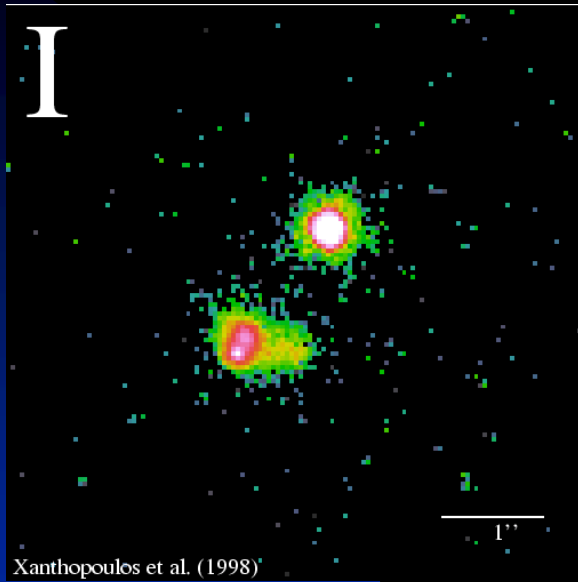


# The gravitational lens B1030+074

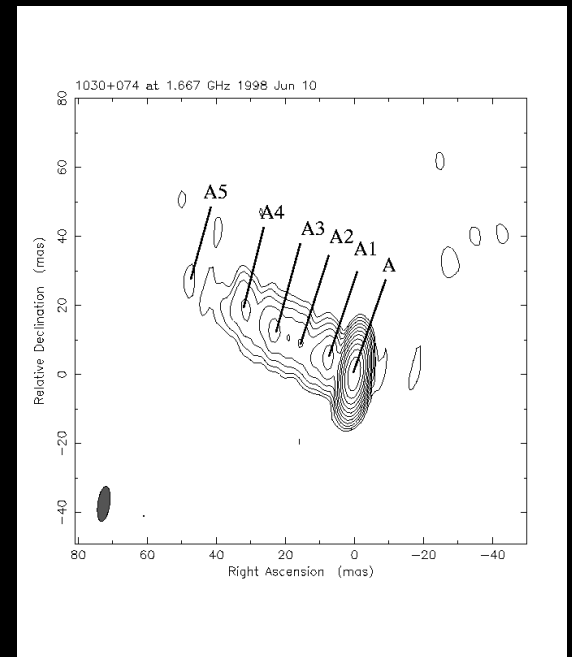
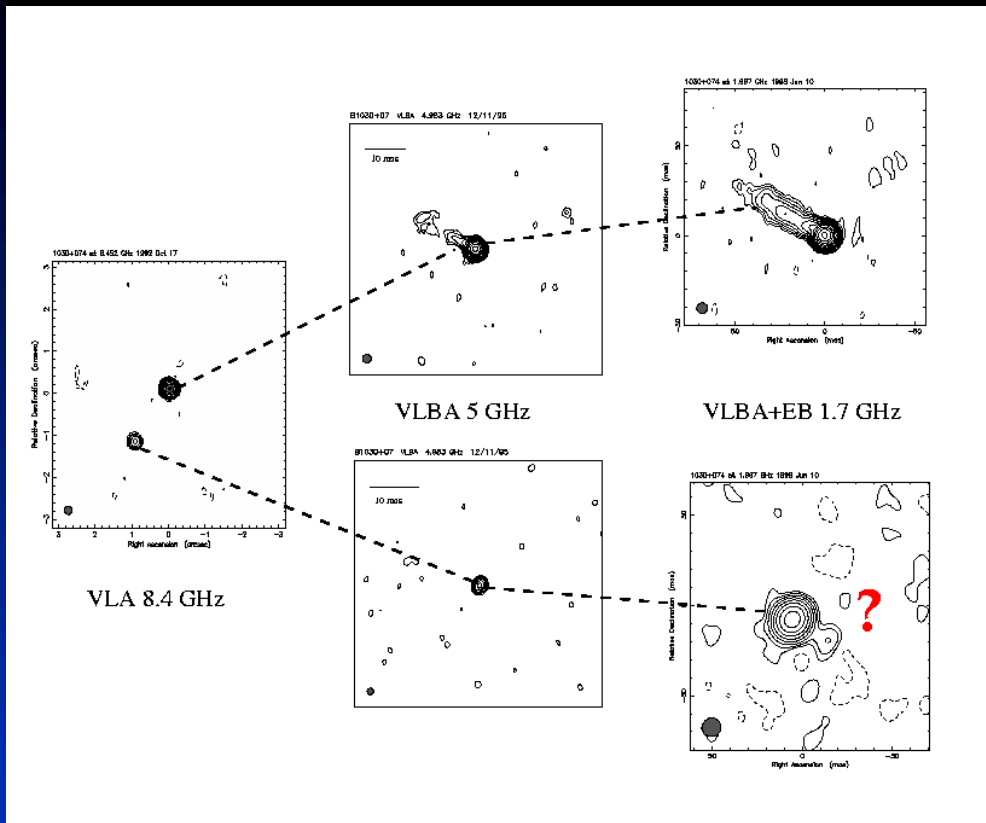
Emily Xanthopoulos, U of Manchester, UK



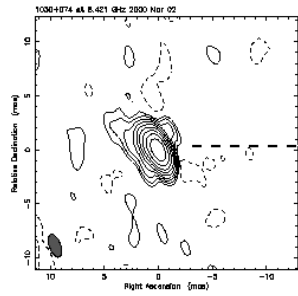
# Optical data



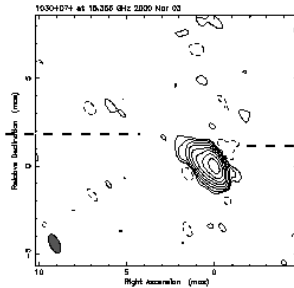
# The radio data



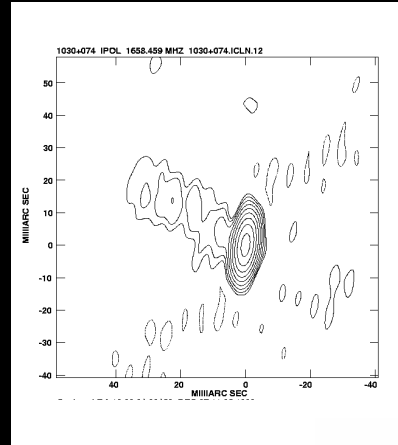
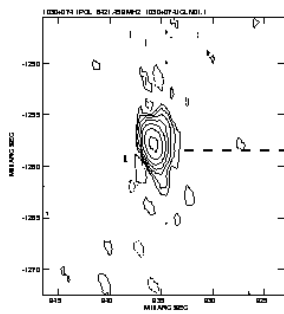
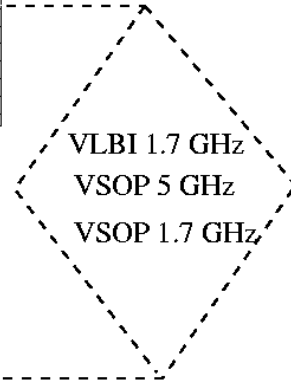
# The radio data



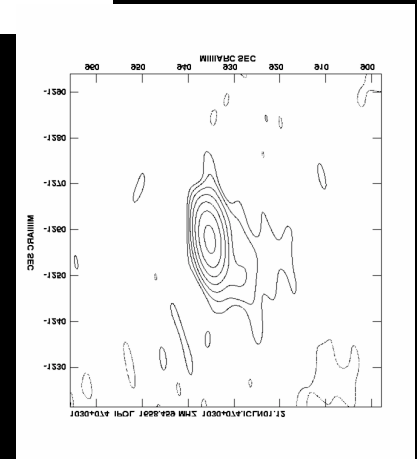
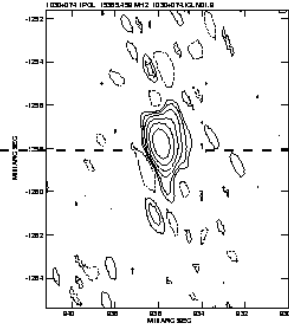
VLBA+(EB) 8.4 GHz



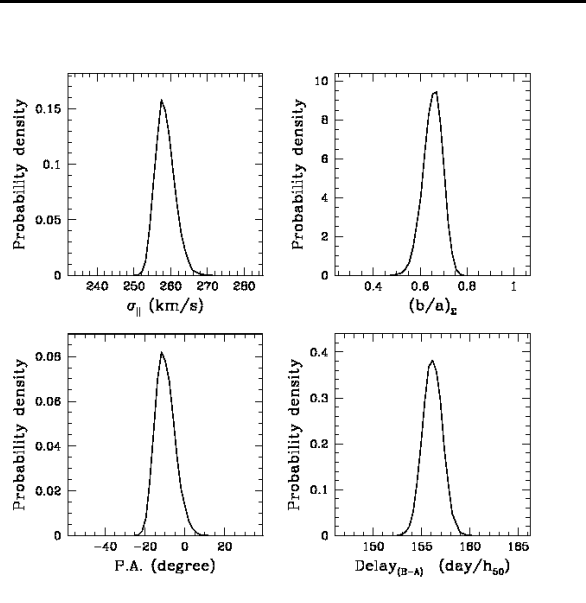
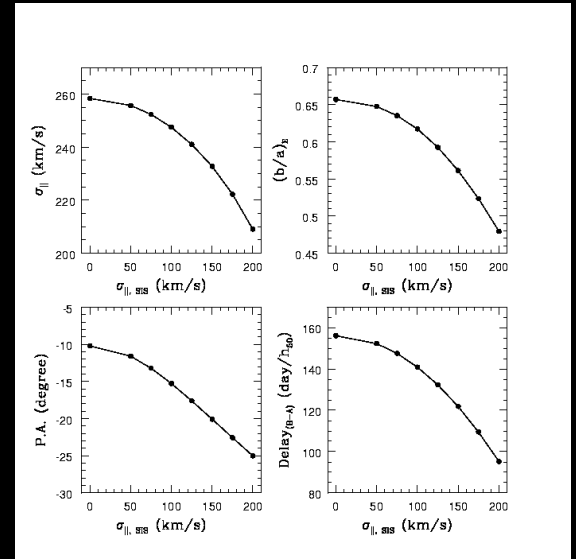
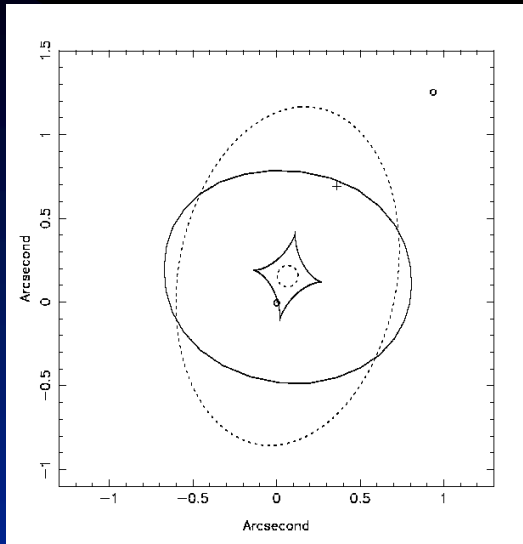
VLBA+(EB) 15 GHz



VLBI 1.7  
GHz A&B



# The model



# Variability of the source

Table 1. Radio observations of B1030+074. Absolute amplitude errors are estimated to be 5%; the flux density ratios are accurate to  $\approx 1\%$ .

| Telesc. | Obs. date  | Frequ.<br>(GHz) | Resol.<br>(arcsec) | Flux density of A<br>(mJy) | Flux density of B<br>(mJy) | Flux density ratio |
|---------|------------|-----------------|--------------------|----------------------------|----------------------------|--------------------|
| EVN     | 1994 05 15 | 1.7             | 0.015              | 147                        | 8.1                        | 18.1               |
| EVN     | 1994 11 18 | 5               | 0.005              | 173                        | 10.9                       | 15.9               |
| MERLIN  | 1993 09 27 | 1.7             | 0.150              | 186                        | 9.8                        | 18.8               |
| MERLIN  | 1996 12 27 | 5               | 0.050              | 326                        | 27.3                       | 12.0               |
| VLBA    | 1995 11 12 | 5               | 0.003              | 248                        | 19.1                       | 13.0               |
| VLA     | 1992 10 17 | 8.4             | 0.240              | 202                        | 16.0                       | 12.6               |
| VLA     | 1994 02 22 | 8.4             | 0.240              | 197                        | 12.9                       | 15.2               |
| VLA     | 1994 02 22 | 15              | 0.140              | 208                        | 14.8                       | 14.0               |
| VLA     | 1995 12 20 | 15              | 0.140              | 295                        | 24.4                       | 12.1               |
| VLA     | 1994 02 22 | 22              | 0.080              | 184                        | 15.3                       | 12.0               |
| VLA     | 1995 12 19 | 22              | 0.080              | 219                        | 12.2                       | 18.0               |

Table 2. Optical observations of B1030+074. The transformed Johnson V and Cousins I magnitudes for the A and B components are presented and the errors are within 0.1 mag.

| Telesc.   | Obs. date  | Wavelength<br>(nm) | Resol.<br>(arcsec) | Magnitude of A | Magnitude of B | Flux density ratio |
|-----------|------------|--------------------|--------------------|----------------|----------------|--------------------|
| HST/WFPC2 | 1997 02 03 | 555                | 0.045              | 20.34          | 24.10          | 27.4               |
| HST/WFPC2 | 1997 02 03 | 814                | 0.045              | 18.75          | 22.17          | 23.4               |