

eMERLIN+EVN status update

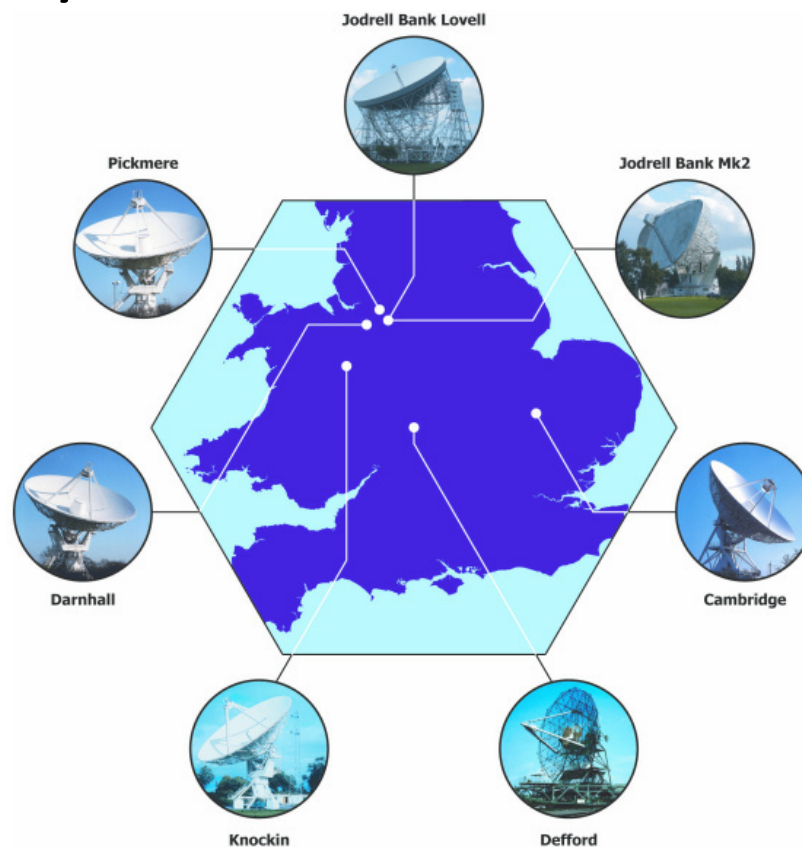
Eskil Varenius and
VLBI colleagues at Jodrell bank

EVN TOG meeting June 2019
Jodrell Bank Observatory

Outline

- Why eMERLIN in EVN?
- eMERLIN eVLBI progress
- JBO VLBI progress since October
- Current JBO VLBI work in progress

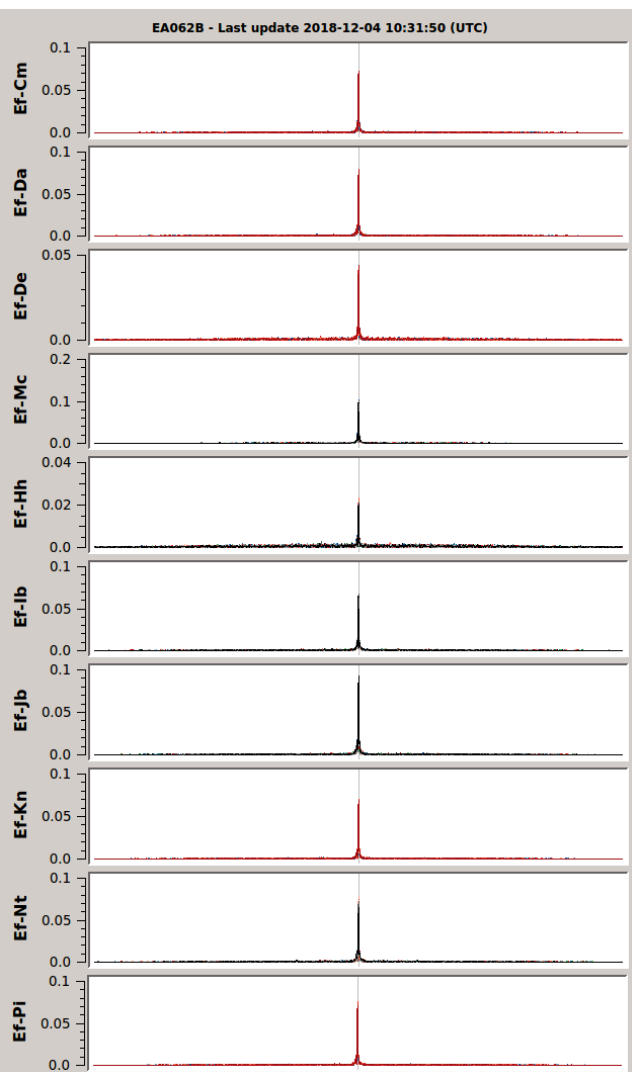
Why eMERLIN in EVN?



Baselines (i.e. science) !

VLA (<36 km) <-> eMERLIN (11 km to 217 km) <-> EVN (>100 km)

6 eMERLIN stations in eVLBI!



Cambridge – WIDAR 512Mbps

Darnhall – WIDAR 512MBps

Defford – WIDAR 512Mbps

IT WORKS!

eVLBI now offered in
regular cycles

Mark 2 (Jb2) – DBBC 1/2Gbps

Knockin – WIDAR 512Mbps

Pickmere – WIDAR 512Mbps

JBO VLBI progress since Granada

- Good (20'' RMS) pointing for all antennas
- Jb1 and Jb2 continuous Tsys measurements
- WIDAR De/Kn data corruption – hardware replaced
- 3G → 5.5G JBO-Jive link: all eMERLINs in eVLBI!
- Many small things (e.g. Serial + GPIB → Ethernet)

Work in progress...

- RFI shielded racks for VLBI equipment (August)
- eMERLIN synth. phase temperature dependence
- New maser installed, will feed VLBI after summer
- eMERLIN 1Gbps upgrade (hardware purchased)
- eMERLIN Tsys logging