Flare in M81*

Abstract:
M81* has recently undergone an extensive radio flare at 15 GHz (ATEL #3621). This is the largest flare observed in M81*. Determination of the evolution of the total flux density as well as the spectral index of the flare is the goal of this campaign. The spectral index break will determine the regions at which the transition from optically thin to optically thick occurs. We propose to observe M81* with 1.5 integrations at 1.4 GHz, 8.5 GHz, 13 GHz, 22 GHz, and 40 GHz in four epochs spaced by a one week intervals, potentially encompassing the duration of the flare. This is a joint proposal with the VLBA, which aims to resolve the structure and motion along the jet. Observations in the sub-millimeter with the SMA will complement and extend the frequency coverage. Finally, nearly simultaneous observations with Suzaku and Swift will complement the radio to determine the disk-jet connection in this flare of M81*.

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<thead>
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Related proposals:

Joint:
Joint with VLBA

Observing type(s):
Continuum, Polarimetry, Single Pointing(s), Monitoring, Astrometry

VLA Resources
<table>
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<tr>
<th>Name</th>
<th>Conf.</th>
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</table>
| X band   | Any   | X Band 3.6 cm 8000 - 12000 MHz  
WIDAR OSRO1: 2  
Subbands/Full polz | Rest frequencies: 8500.0,8600.0 MHz  
Subband Bandwidth: 128.0 MHz  
No. of Channels: 64  
Poln. products: 4.0  
Channel Width: 2000.0 kHz |
| C band   | Any   | C Band 6 cm 4000-8000 MHz  
WIDAR OSRO1: 2  
Subbands/Full polz | Rest frequencies: 4500,7900 MHz  
Subband Bandwidth: 128.0 MHz  
No. of Channels: 64  
Poln. products: 4.0  
Channel Width: 2000.0 kHz |
| Ka band  | Any   | Ka Band 0.9 cm 26500 - 40000 MHz  
WIDAR OSRO1: 2  
Subbands/Full polz | Rest frequencies: 32500.0,39500.0 MHz  
Subband Bandwidth: 128.0 MHz  
No. of Channels: 64  
Poln. products: 4.0  
Channel Width: 2000.0 kHz |
| Ku band  | Any   | Ku Band 2 cm 12000 - 18000 MHz  
WIDAR OSRO1: 2  
Subbands/Full polz | Rest frequencies: 12500.0,17500.0 MHz  
Subband Bandwidth: 128.0 MHz  
No. of Channels: 64  
Poln. products: 4.0  
Channel Width: 2000.0 kHz |
| S band   | Any   | S Band 10 cm 2000 - 4000 MHz  
WIDAR OSRO1: 2  
Subbands/Full polz | Rest frequencies: 2500.0,3500.0 MHz  
Subband Bandwidth: 128.0 MHz  
No. of Channels: 64  
Poln. products: 4.0  
Channel Width: 2000.0 kHz |
| L band   | Any   | L Band 20 cm 1000 - 2000 MHz  
WIDAR OSRO1: 2  
Subbands/Full polz | Rest frequencies: 1250.0,1750.0 MHz  
Subband Bandwidth: 128.0 MHz  
No. of Channels: 64  
Poln. products: 4.0  
Channel Width: 2000.0 kHz |
| K        | D     | K Band 1.3 cm 18000 - 26500 MHz  
WIDAR OSRO1: 2  
Subbands/Full polz | Rest frequencies: 21500.0,22500.0 MHz  
Subband Bandwidth: 128.0 MHz  
No. of Channels: 64  
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Channel Width: 2000.0 kHz |

Sources:

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