EXORCISM

EXor optical-infrared systematic monitoring

S. Antoniucci[1], T. Giannini[1], D. Lorenzetti[1], A.A. Arkharov[2], V.M. Larionov[2,3], A. Harutyunyan[4], A. Di Paola[1], U. Munari[5], F. Strafella[6], F. Vitali[1], G. Li Causi[1,7], B. Nisini[1], A. Giunta[1], D. Licchelli[6], V. Testa[1]

[1] INAF – Osservatorio Astronomico di Roma, Italy
[2] Central Astronomical Observatory of Pulkovo, Russia
[3] Astronomical institute of St. Petersburg University, Russia
[4] Fundacion Galileo Galilei – INAF – TNG, Spain
[5] INAF – Osservatorio Astronomico di Padova, Italy
[6] Università del Salento, Italy
[7] INAF – Istituto di Astrofisica e Planetologia Spaziali, Italy

Characterisation and modeling of EXor young outbursting variables has suffered from lack of multi-band observations that monitor their photometric and spectroscopic variations

EXORCISM programme

- **monitoring of photometric variations** at optical (**BVRI**) and near-IR (**JHK**) wavelengths
→ detect outbursts, monitor colour variations
- construction of a homogeneous **library of EXor optical-to-near-IR quiescence spectra**
- **acquisition and monitoring of outburst spectra**, comparison with library quiescence spectra

EXORCISM

❑ **Photometric monitoring** (typical sampling interval: 2-4 weeks)

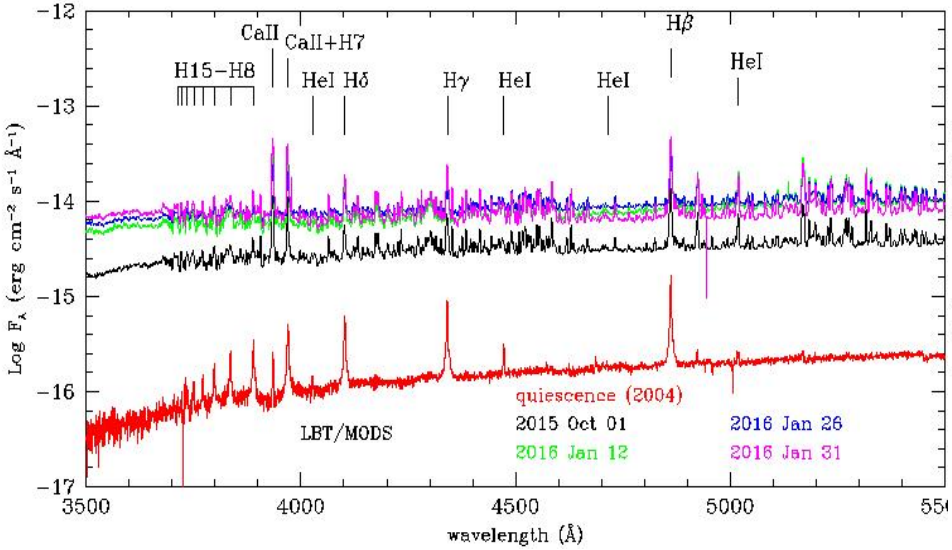
- AZT-24 Campo imperatore (JHK)
- St. Petersburg telescope (BVRI), Asiago 122cm-telescope *(recently implemented)*
- La Silla/REM (griz+JHK) *(recently implemented)*

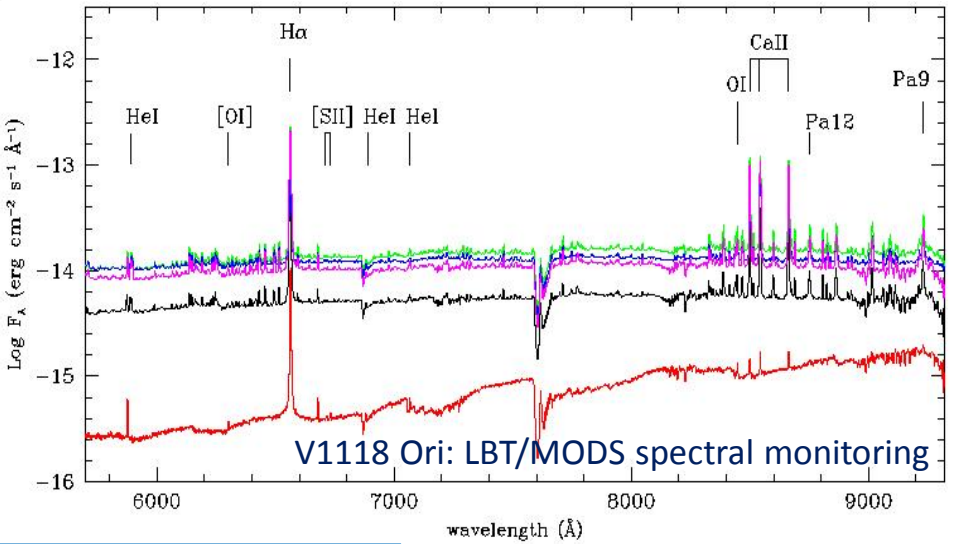
❑ **Spectroscopic library/monitoring of outbursts**

- ***low spectral resolution***
  - LBT/MODS (optical) , LBT/LUCI (near-IR) (0.4-2.4 μm, R~1000)
- ***high spectral resolution*** *(recently implemented)*
  - Asiago 182cm-telescope (optical, R~20000); TNG/GIANO (near-IR, R~50000)

EXORCISM

- Current considered sample of about 30 objects (known EXors+candidates)
- Library status: acquired quiescence spectra of 20 objects, 11 completed (optical+near-IR)
- V1118 Ori observed in quiescence and outburst!





V1118 Ori: LBT/MODS spectral monitoring

see talk by Teresa Giannini

Recent publications based on EXORCISM data:

- *Antoniucci+ 2014*, *Antoniucci+ 2015* *(V1180 Cas)*
- *Lorenzetti+ 2015* *(V1118 Ori quiescence)*
- *Giannini+ 2016a* *(V1184 Tau)*, *Giannini+ 2016b* *(V1118 Ori outburst)*

email contact: *simone.antoniucci@oa-roma.inaf.it*