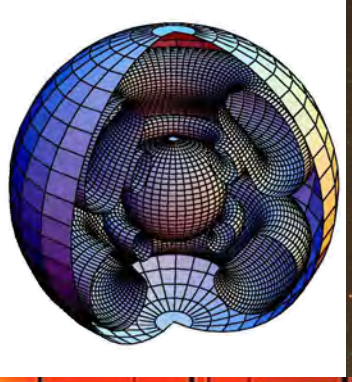
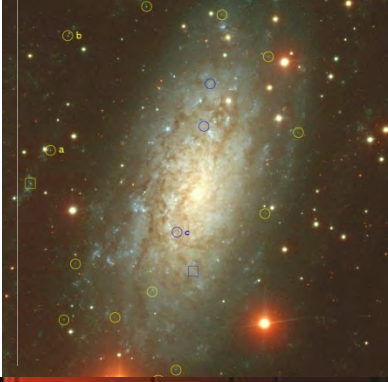
$$n_i \sum_{j \neq i} (R_{ij} + C_{ij}) =$$
$$\sum_{j \neq i} n_j (R_{ji} + C_{ji})$$
$$\mu \frac{\mathrm{d}I_\nu}{\mathrm{d}\tau_\nu} = I_\nu - S_\nu$$





Galactic Astrophysics

& Quantitative Spectroscopy

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Galactic Astrophysics Group – Science Topics

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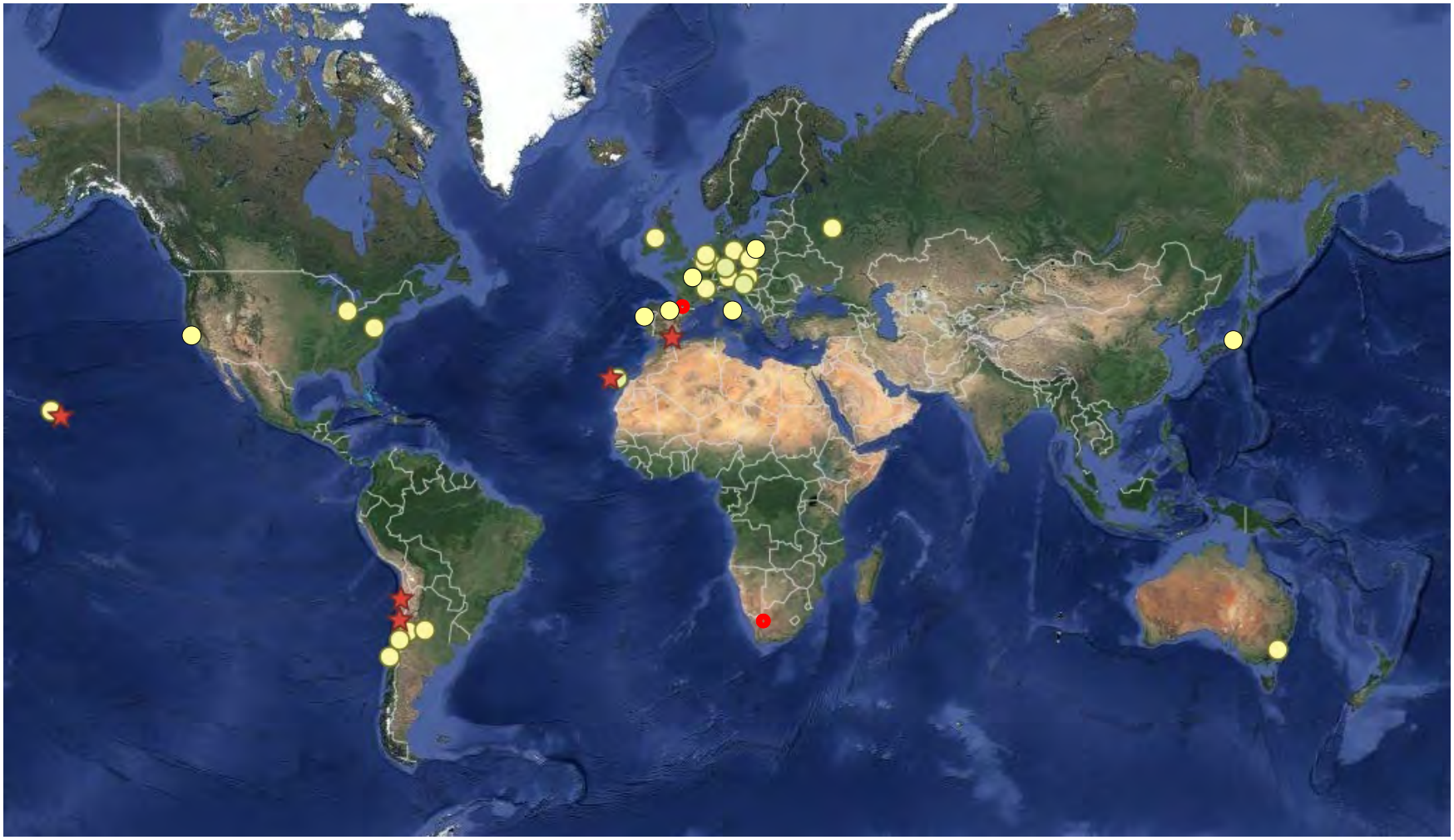
International Network



collabortion observatory

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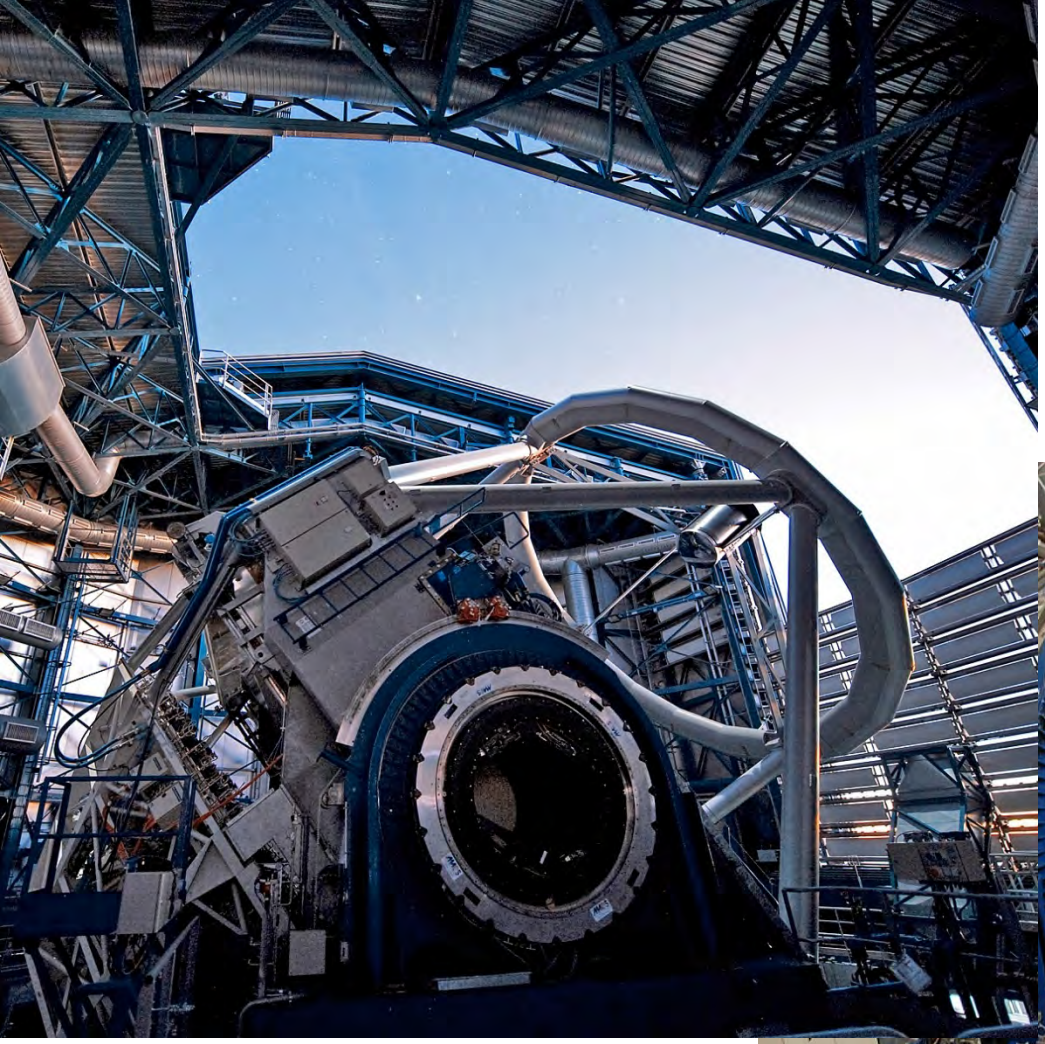
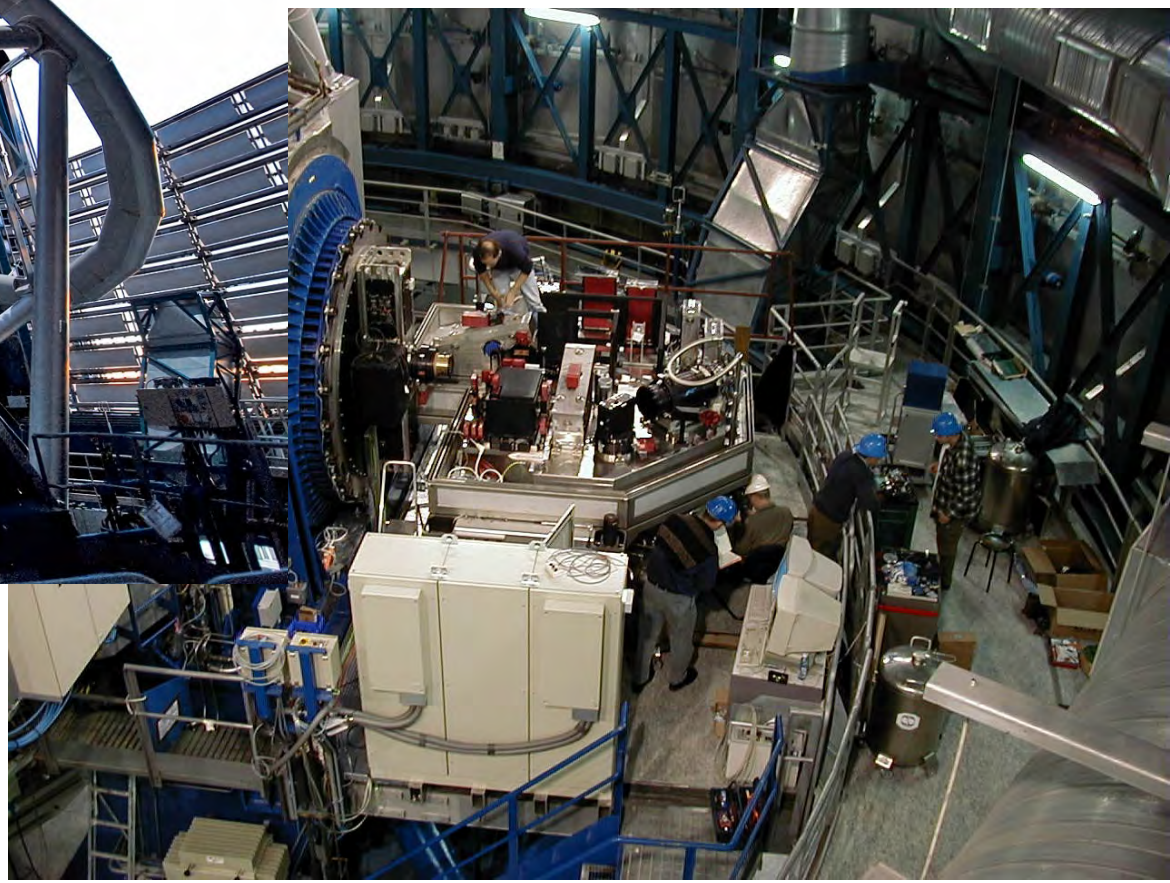
Our „labs”

Our „labs”



ESO VLT

ESO VLT: UVES spectrograph



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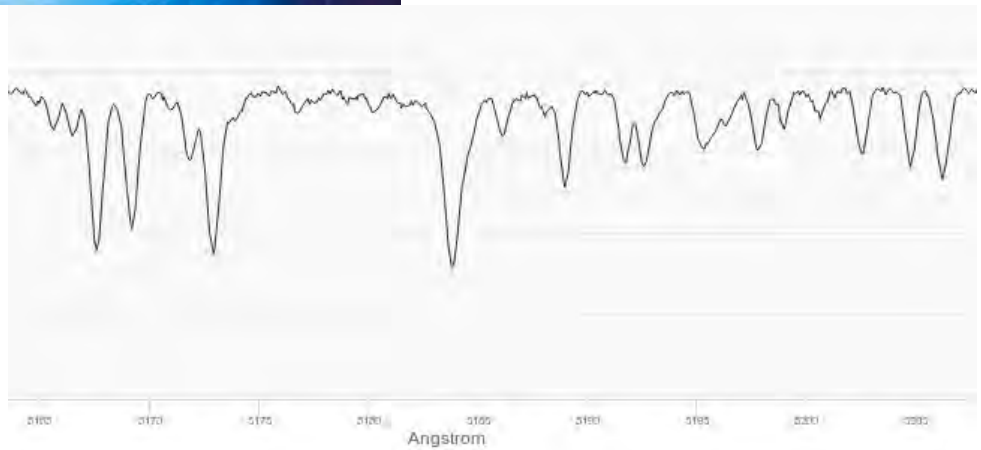
Example-Topic: Bachelor-Thesis

Quantitative Spectroscopy of IL Lupi, the Optical Component of the High-Mass X-ray Binary 4U 1543-475

- elemental abundance determination for black hole companion



Contact: N. Przybilla

Example-Topic: Master-Theses

- **NLTE radiative transfer in stellar atmospheres/quantitative spectroscopy**

various topics possible:

- NLTE model atom construction

- NLTE analysis of different types of stars

- UV/optical/near-IR spectroscopy

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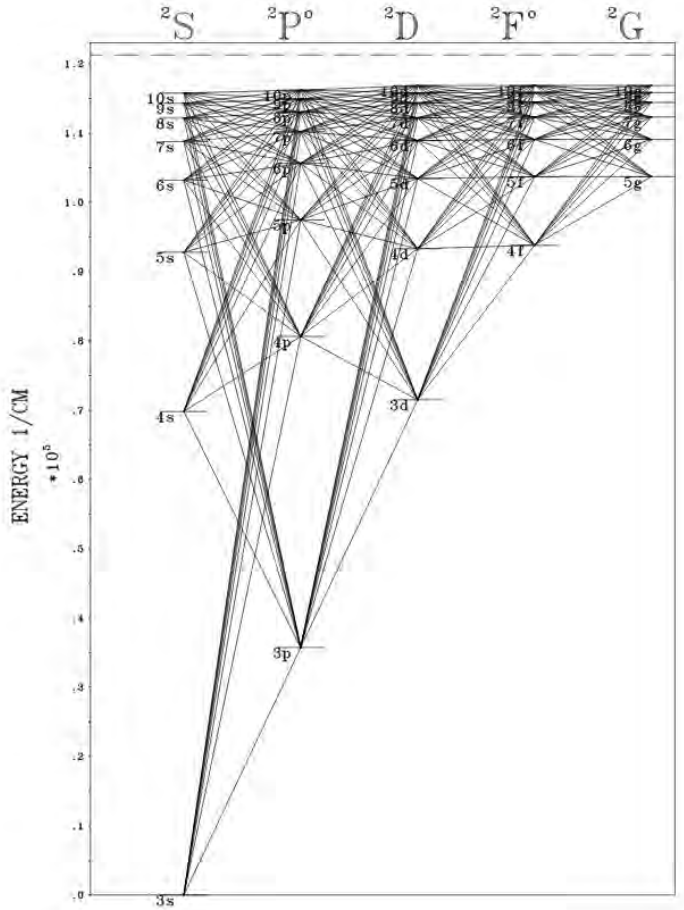

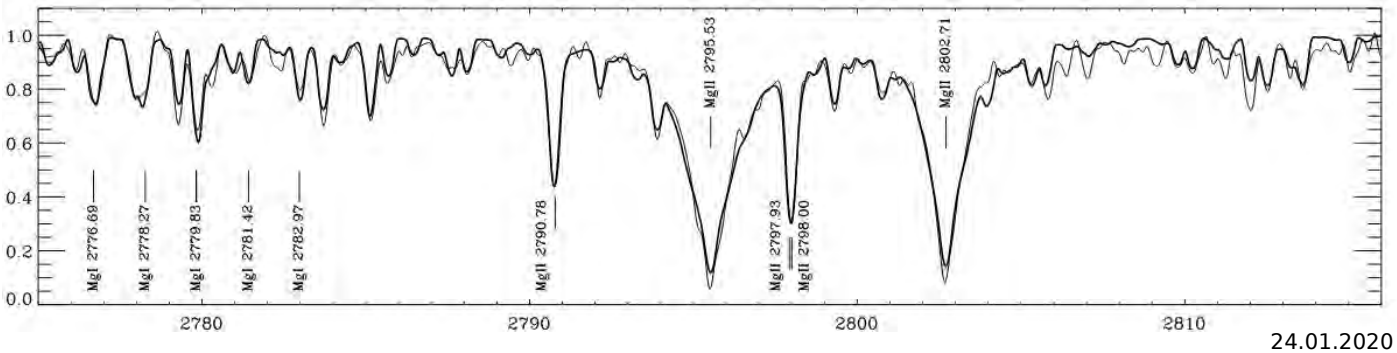

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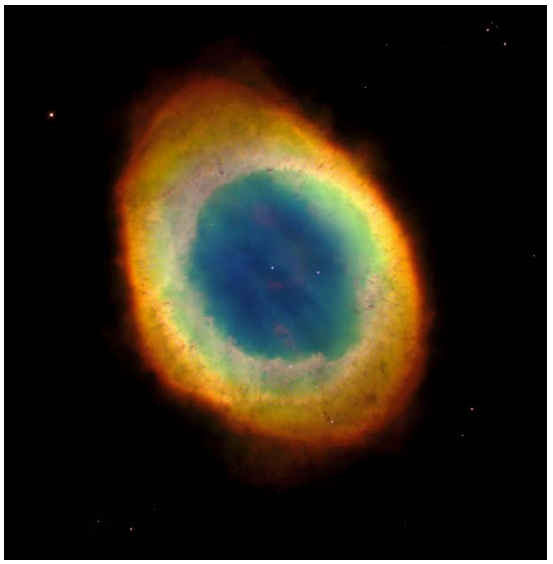
Example-Topic: Planetary Nebulae

Radiative transfer in thin hot gas nebulae around stars in their final steps of evolution:



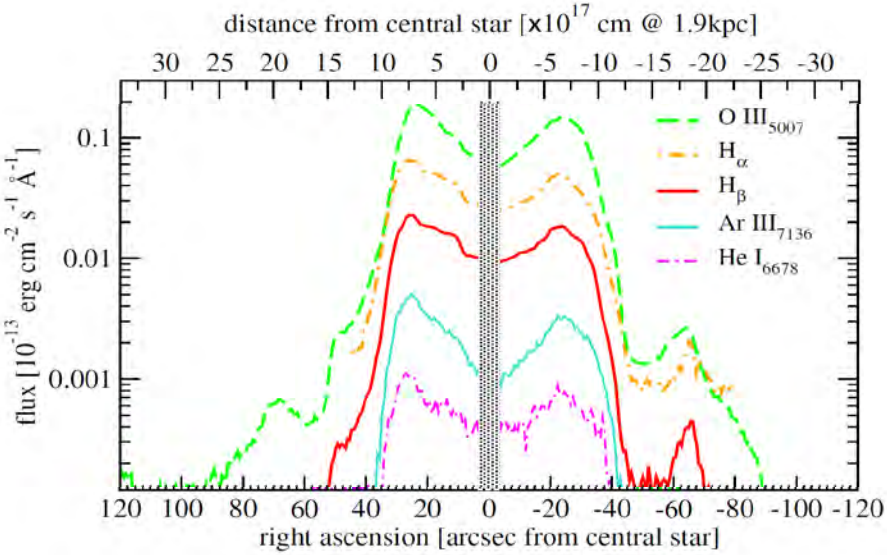
various topics possible:

- 2D/3D modelling of radiative transfer

- Radiation processes in „forbidden“ lines

- optical/near-IR spectroscopy

- radio/microwave emission of molecules



Contact: S. Kimeswenger