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An atlas of resolved spectral features in the transmission spectrum of WASP-189 b with MAROON-X

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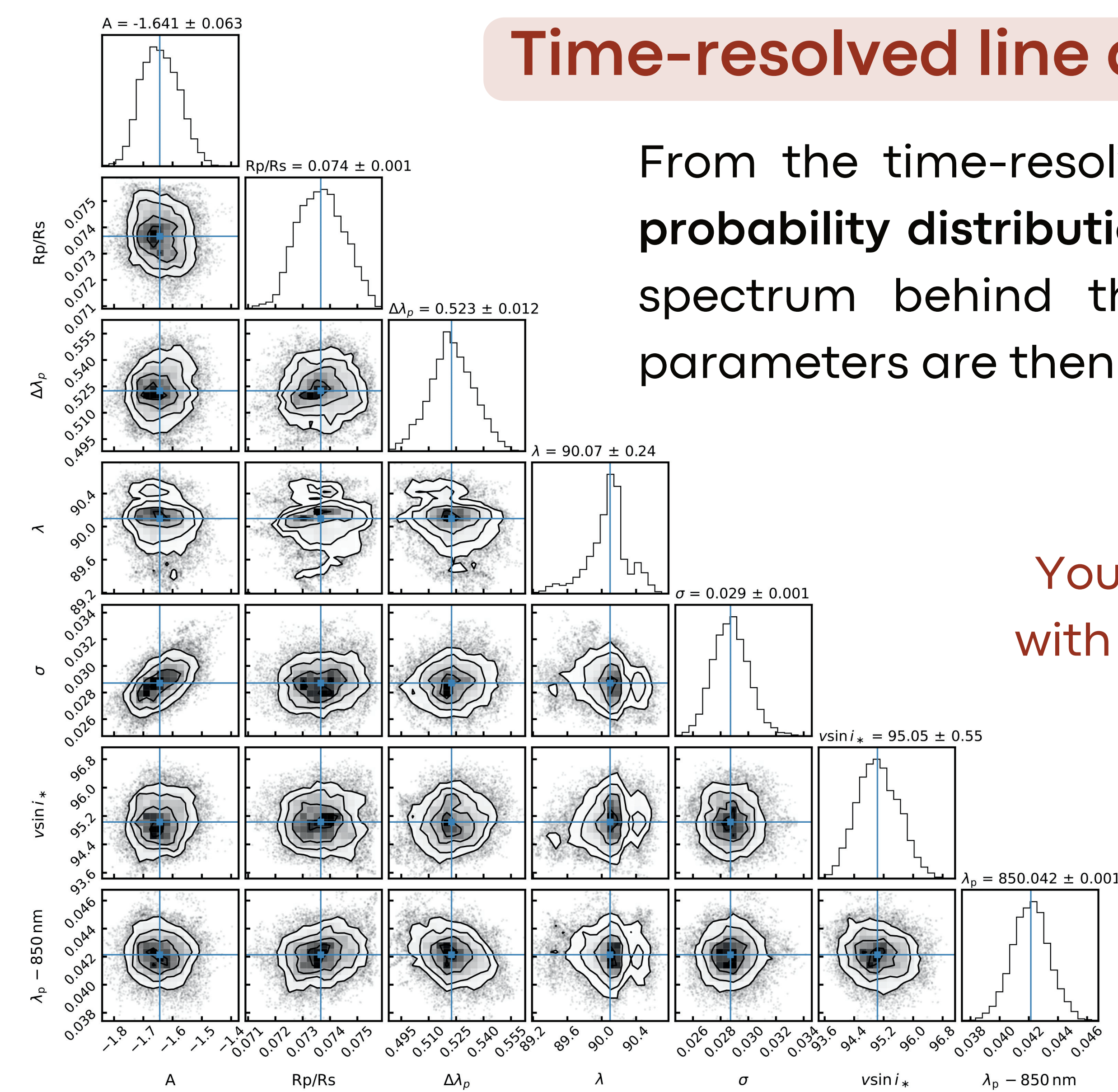
A&A, 685, A60 (2024)

Narrow-band spectroscopy of strong absorption lines

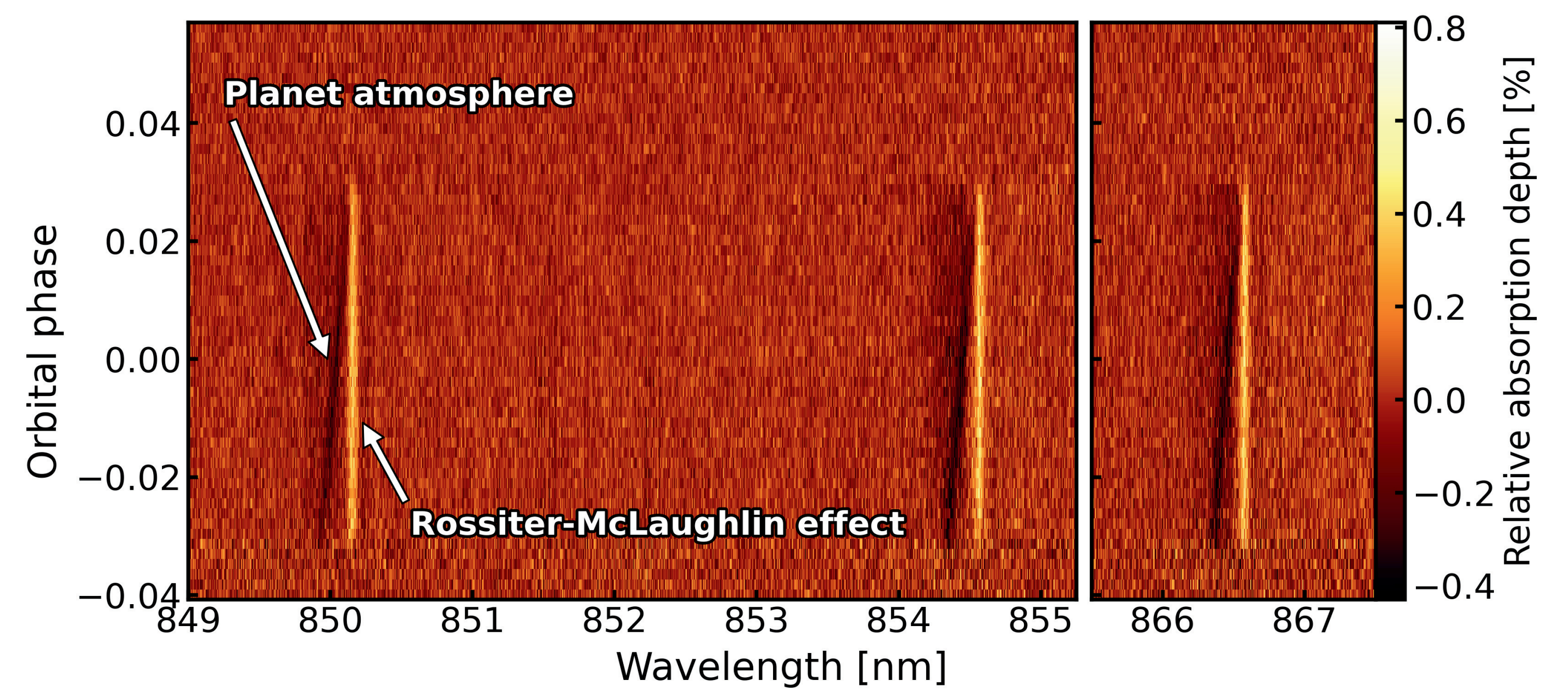
We observed two transits of the ultra-hot Jupiter WASP-189 b with MAROON-X on Gemini-North to probe its high-altitude atmospheric layers, using strong absorption lines, in particular, Fe, Fe+, Ca+, Ba+, Na, Ha, and Mg.

Time-resolved line absorption to infer stellar and planetary parameters

From the time-resolved line absorption of the Ca+ infrared triplet, we derived **posterior probability distributions for the planetary and stellar parameters** by calculating the stellar spectrum behind the planet at every orbital phase during the transit. The derived parameters are then used to correct for the Rossiter-McLaughlin effect.



You can try this with StarRotator!



A treasure chest full of absorption lines for the community to use as a benchmark

These high signal-to-noise observations of WASP-189 b provide a benchmark data set for testing high-resolution retrievals and the assumptions of atmospheric models.

