

New Composition Constraints for TRAPPIST-1 7-planet System

What is the science question?

What can new mass measurements tell us about plausible compositions of the planets?

What were your findings?

Long-term stability simulations can rule out many configurations, leading to smaller mass uncertainties and therefore tighter constraints on compositions.

What was the impact?

TRAPPIST-1f likely has liquid water that only exists in clouds and not on its surface, making it unlikely to be habitable.

Why does it matter to non-scientists?

TRAPPIST-1 planets are a remarkable testbed for learning about planet formation, evolution and habitability.

