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# Water Contents of Habitable Zone Rocky Planets and Biosignature Detection around M dwarfs

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## Abstract

The searches for habitable planets currently focus on M dwarfs because of observation feasibility considerations. However, the early evolution of M dwarfs are quite different from that of Sun-like stars. In the first part of this presentation we will report how early evolution of rocky planets around M dwarfs would change their water contents. In addition we will also discuss the probability of observing on-going water loss and oxygen dominated atmospheres on rocky planets around M dwarfs.

Water could be delivered by impacts of small bodies after the planet formation and early evolution phase. This process depends on dynamic interactions between small bodies and larger planets. In the second part of this presentaion we will report statistic results on the delivery of water to habitable zone rocky planets around stars with different masses and discuss the impact on planet habitability.

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