

Conditions required for the formation of habitable planets

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More than 200 exoplanets have been found. Although terrestrial planets have not been found yet owing to their small mass, terrestrial planets should also exist around many Sun-like stars. It is a very interesting question how often there are planets with a surface condition habitable for life. Although we do not know real conditions required for life, we conventionally refer to the existence of liquid water as a proxy condition, because terrestrial-life requires liquid water during at least some periods of their life.

It is well known that the mass and the distance from the central star are important factors that limit the existence of liquid water on terrestrial planets. If these parameters are the only controlling factors of habitability, it is relatively easy to pick up potential habitable planets. However, many other controlling factors likely remain unconstrained. Here, we discuss some of these factors