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Effect of Different Parameter Variations upon the Inner Boundary of the Habitable Zone

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Should terrestrial extrasolar planets be found, it is an interesting question to ask if they may harbour life. A requirement to develop life on a planet is the presence of liquid water on the surface of a planet. Based on this condition the Habitable Zone (HZ) is defined as the region around a star where liquid water is possible on the surface of a planet. As inner boundary of the HZ the water loss limit is taken. At this limit an Earth-like planet would lose all of its oceans within its lifetime. In our study we investigate the effect of different parameter variations upon the inner boundary of the HZ (for example, we vary different relative humidity profiles). For our calculations we are using a one dimensional radiative-convective model of the atmosphere coupled with a photochemical model.