Photoionization Modeling of the LWS Fine Structure Lines in IR Bright Galaxies

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Abstract

Stellar evolutionary synthesis models combined with photoionization and photodissociation region models are used to self-consistently model LWS fine structure lines from IR luminous galaxies. Starburst and active galactic nuclei (AGN) models are presented and the effects of dust in the ionized region are examined. These models provide diagnostics of, for example, the age of the starburst and the dominant luminosity source.