

A VERY RAPID-EVOLVING YOUNG PLANETARY NEBULA

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Abstract. During a time interval of only 2 years, a sudden change has been detected in the emission line spectrum of a young planetary nebula IRAS 0656 2-0337, whose nature has been recently discussed by several authors, was firstly observed in December 1987 at La Silla (Chile) and in October 1988 at La Palma (Spain), showing only the Balmer lines in emission. A third spectrum, obtained at La Silla during February 1990, shows a quite different appearance, with forbidden emission lines typical of a planetary nebula. The electronic density is very high, and there is a high infrared excess too. An expansion velocity of 45 km s^{-1} has been estimated. It is shown that the effective temperature of the central star has significantly increased over this period of time. This is consistent with the evolution of a massive progenitor in the post-AGB phase, with $L = 7000L_{\odot}$ at $D = 4 \text{ kpc}$, in which the ionization of the neutral envelope, detected in CO, is now taking place.