N05a The Spectroscopic Diversity of Type Ia Supernovae

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We present and discuss the spectroscopic similarities and differences among type Ia supernovae (SNe Ia). It is a well-known fact that the spectra of SNe Ia, particularly at a late epoch, are highly homogeneous. On the other hand, based on their spectroscopic differences at an early epoch, SNe Ia can be sub–classified into "normal" type, which can be used in cosmology, and "peculiar" type. We can show that most of the peculiarities are caused by the temperature variation. Even among normal SNe Ia, subtle spectroscopic differences as a function of temperature can be recognized. Therefore, we suggest that SNe Ia are produced by one kind of progenitor, and that most of the spectroscopic variations are due to the temperature difference, probably caused by different amounts of freshly synthesized ^{56}Ni.