

[초IT-02] The Progenitors of Type Ia Supernovae

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Type Ia supernovae (SNe Ia) have provided the first evidence that the Universe is accelerating. Nevertheless, the nature of the progenitors has remained a mystery, indeed controversial. In this talk I will first summarize the main supernova explosion mechanisms and the observational classification of supernovae. I will show how SNe Ia can be used as standardizable distance candles and discuss possible limitations of the method. In the main part of the talk I will discuss the main progenitor models that have been proposed, emphasizing the problems and advantages of each, and how they can be observationally tested. I will then present some relatively recent discoveries by the Palomar Transient Factory and most recently in M82 that directly constrain the progenitors in a few cases.