Spectropolarimetric diagnostics of thermonuclear supernova[1] LI-
FAN WANG, Lawrence Berkeley National Laboratory — Even at extragalactic dis-
tances, the shape of Supernova (SN) ejecta can be effectively diagnosed by spec-
tropolarimetry. We present here results for 12 Type Ia supernovae (SNe) obtained
during the past years through our program of SN polarimetry, using primarily the
Very Large Telescopes (VLT) of European Southern Observatory (ESO). These ob-
servations show that SN Ia ejecta typically consist of a smooth, central iron rich core
and an outer layer with significant asymmetries and chemical inhomogeneities. The
degree of this peripheral asphericity is anti-correlated with the intrinsic luminosity
of Type Ia supernovae.

[1]Based in part on observations obtained at the ESO.

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