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Polarimeric Studies of Galaxies

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Dust grains are key ingredients in understanding the interstellar medium (ISM) and the largest effects of dust on astronomical observations, the extinction of light in the line of sight and the wavelength dependent reddening it causes, both affecting distance measurements for cosmology when using extragalactic sources such as supernovae. The shape, orientation and distribution of the dust grains may also polarize light as it traverses the ISM. A comprehensive polarization study of galaxies that hosted supernovae is thus justified.
I will describe the reduction steps undertaken to calculate the Stoke parameters in order to yield more reliable and less biased polarimetric estimates. I will then discuss the results obtained from applying this methodology to an ensemble of multi-band polarimetric maps of galaxies observed with VLT's FORS2.

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