A SYNOPTIC VIEW OF THE MAGELLANIC CLOUDS: VMC, GAIA AND BEYOND

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Dust content and stellar feedback in the Magellanic Clouds

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The Magellanic Clouds have been case studies for dust evolution in galaxies. Stellar feedback is critical for the dust evolution. Stars produce dust when they die and the explosive ends of massive stars destroy dust residing in the interstellar medium. This invited talk will review results from the Spitzer SAGE and Herschel HERITAGE projects and followups to this work. The dust production rate by asymptotic giant branch (AGB) stars and the break down between carbon and oxygen rich will be discussed. The dust content of SN 1987A implies significant contributions from massive stars. However, supernovae remnants destroy dust in the interstellar medium and these dust destruction rates are fast, yet reliant on theoretical calculations. This past work has laid the basis for future work on infrared stellar populations in nearby galaxies with JWST.