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A High-Statistics Tully-Fisher Catalog using Fiber Spectroscopy

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The Tully-Fisher relation (TFR) is an empirical correlation between the instrinsic luminosity of a spiral galaxy and its asymptotic rotational velocity. Here we present measurements of the TFR from a secondary target program at the Dark Energy Spectroscopic Instrument, a robotic fiber-fed spectrograph located at Kitt Peak National Observatory. By positioning fibers on the galaxies' nuclei and their semimajor axes at a distance of 0.4R_26, where R_26 is the 26th-magnitude/arcsecˆ2 r-band isophote, we can remove the galaxies' systemic velocities and infer their rotational velocities. Since the DESI main survey began in May 2021, we have collected more than 30,000 TFR measurements of nearby spiral galaxies. In this talk, we describe the TFR secondary target program, the data reduction, and compare the inferred TFR to other measurement techniques using emission line widths.

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