

DISCOVERY OF MASSIVE YOUNG STELLAR OBJECTS IN THE GALACTIC CENTER WITH WARM CO₂ GAS ABSORPTION

DEOKKEUN AN, SOLANGE RAMIREZ, *IPAC/CALTECH*; KRIS SELLGREN, *OHIO STATE U.*; ADWIN BOOGERT, *CALTECH*; RICHARD ARENDT, *NASA/GODDARD SPACE FLIGHT CENTER*; ANGELA COTERA, *SETI INSTITUTE*; THOMAS ROBITAILLE, *ST. ANDREWS U., UK*; MATHIAS SCHULTHEIS, *OBS. BESANCON, FRANCE*; HOWARD A. SMITH, *HARVARD-SMITHSONIAN CENTER FOR ASTROPHYSICS*; SUSAN STOLOVY, *SPITZER SCIENCE CENTER, CALTECH*.

We report the detection of several molecular gas-phase and ice absorption features in three photometrically-selected young stellar object (YSOs) candidates in the central 280 pc of the Milky Way. Our spectra, obtained with the Infrared Spectrograph (IRS) onboard the *Spitzer Space Telescope*, reveal gas-phase absorption from CO₂ (15.0 μm), C₂H₂ (13.7 μm) and HCN (14.0 μm). We attribute this absorption to warm, dense gas in the massive YSOs. We also detect strong and broad 15.2 μm CO₂ ice absorption features, with an absorption profile indicating the presence of thermally processed CO₂ ice. Our IRS observations demonstrate the youth of these objects, and provide the first spectroscopic identification of massive YSOs in the Galactic Center.