DISCOVERY OF MASSIVE YOUNG STELLAR OBJECTS IN THE GALACTIC CENTER WITH WARM CO_2 GAS ABSORPTION

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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 CO_2 (15.0 μm), C_2H_2 (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 CO_2 ice absorption features, with an absorption profile indicating the presence of thermally processed CO_2 ice. Our IRS observations demonstrate the youth of these objects, and provide the first spectroscopic identification of massive YSOs in the Galactic Center.