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Upper limit of carbon monosulfide in Neptune's atmosphere

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The observed mixing ratio of carbon monoxide (CO) in Neptune's atmosphere was around 1 ppm. This abundant mixing ratio suggests that external sources like comets or asteroids may affect the CO abundance in Neptune's atmosphere. In the case of Jovian atmosphere, after collisions of comet Shoemaker-Levy 9, carbon monosulfide (CS) and other minor components have been produced into its atmosphere. We observed the rotational line of CS ($J=7-6$, 342.88 GHz) toward Neptune's atmosphere using the ASTE (Atacama Submillimeter-millimeter Telescope Experiment) radio telescope of the NAOJ and derived the upper limit. In this poster, details of our observation and result will be presented.