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Chris Fagin* (scfagin@yahoo.com), 650 E Parkway S, Memphis, TN 38104, and **Yudong Tao, Yeojin Amy Ahn, Laura Vitale** and **Daniel Messinger**. *Analyzing Facial Expression Data in Autism Research*.

The Autism Diagnostic Observation Schedule, 2nd version (ADOS-2) is a 40-60 minute Autism Spectrum Disorder (ASD) diagnostic assessment in which a child's behavioral symptoms are observed. In the ADOS-2, the child's parent and examiner wear Pivothead® glasses with an embedded video camera while the child interacts with the parent and the examiner. The goal in this study is to utilize objective measurements available through commercial software. This is done by manipulating raw facial expression data matrices using eigenvalues to find latent factors in facial expressions in a statistical technique known as Exploratory Factor Analysis (EFA). The latent factors are then correlated with ADOS-2 Calibrated Severity Score (CSS) Social Affect scores. This talk will describe the linear algebra methods employed in the study. (Received September 17, 2019)