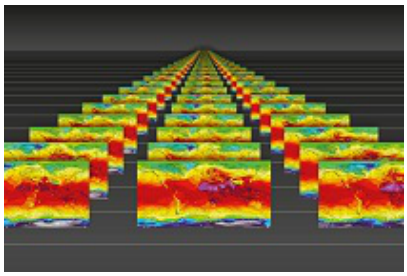

Contribution ID: **88** Type: **Oral presentation**

Intra-seasonal and Seasonal Variability of the Northern Hemisphere Extra-tropics

Tuesday, 2 April 2019 16:45 (15 minutes)

The natural variability of the extra-tropics is studied at seasonal and intra-seasonal time scales. Nonlinear oscillations in the extra-tropics are extracted from daily anomalies of 500-hPa geopotential height for the period 1979-2012 using a data-adaptive method. Three propagating oscillations with broad-band spectra centered at 120, 45, and 28 days are found. When combined, the oscillations explain up to 30% of the natural variability of the extra-tropics on the intra-seasonal to seasonal time scales. These oscillations share some features with the circumglobal wave guide and in some phases of their lifecycles they project onto the canonical teleconnection patterns. When used as predictors in a simple linear regression model with 2-meter temperature as predictand, the mid-latitude oscillations extend the potential predictability of dependent variable to about 20 days.

For the 120-day oscillation, the S2S models show forecast skill beyond 4 weeks lead time.

Primary authors: STAN, Cristiana (GMU); KRISHNAMURTHY, V. (COLA/GMU)

Presenter: STAN, Cristiana (GMU)

Session Classification: Predictability and dynamics

Track Classification: Workshop on Predictability, dynamics and applications research using the TIGGE and S2S ensembles