



The dynamics of the Asian summer monsoon

Nikola Jajcay (1) and Abdel Hannachi (2)

(1) Department of Meteorology and Environment Protection, Charles University, Czech Republic (nikola.jajcay@gmail.com),

(2) Department of Meteorology, Stockholm University, Sweden (a.hannachi@misu.su.se)

Asian summer monsoon is a high-dimensional and highly complex phenomenon affecting more than one fifth of the world population in terms of agriculture, industry and society. It is one of the oldest weather observations and still it is only partially understood and difficult to predict. Asian summer monsoon exhibits wide spectrum of variability on every time scale, especially sub-seasonal variability. Monsoon undergoes periods of enhanced and reduced rainfall over a large region and these periods are called active and breaks spells. It is known, that these two periods are different in terms of sea level pressure anomalies. In my project, I have investigated these anomalies using Empirical Orthogonal Functions technique, from which I have obtained preferred flow patterns (explaining the highest percentage of variance) and then I have used PDF estimations with Epanechnikov kernel to obtain spherical PDF, from which I could observe patterns of sea level pressure anomalies which are the most probable.