A. Mura and the JIRAM team EVOLUTION OF JUPITER POLAR CYCLONES

In 2017, Juno discovered the circumpolar cyclones (CPC) at Jupiter. Since then, JIRAM has been monitoring the evolution of these cyclones. The South CPC has 5 cyclones around the polar one. In 2019, a 6th cyclone temporarily joined the structure, and then disappeared. In this presentation we discuss the secular variability of the circumpolar cyclones over the time span of 4 years. The cyclones exhibit short-scale oscillations, which seem to propagate from a cyclone to the adjacent ones. The westward drift is estimated and it is substantially different at the two poles.



Evolution of the South CPCs. At ~orbit 22, a 6th cyclone tries to enter in structure but after few months it disappears. After 4 years of observations, the 5+1 structure has not changes significantly



Westward drift and oscillations

South (°/year)		North (°/year)	
CPC 1	8.0	CPC 1	2.6
CPC 2	7.9	CPC 2	2.4
CPC 3	7.3	CPC 3	3.1
CPC 4	8.0	CPC 4	2.9
CPC 5	6.4	CPC 5	3.3
		CPC 6	5.2
		CPC 7	8.0
		CPC 8	-2.7
Average	7.5 ± 0.7	Average	3 ± 3*

Average westward angular velocity of each cyclone The South structure has a coherent westward angular velocity of about 7° per year. It is clear that the North and South westward drifts are substantially different over the 4-year period in this study.