



## **Rainfall analysis using cellular networking measurements**

Pinhas Alpert (1) and Asaf Rayitsfeld (1)

1. Department of Geophysics and Planetary Sciences, Tel Aviv University, Israel , 69978

**Rainfall measurements have been investigated worldwide because of their important implications in meteorology, hydrology and weather forecasting. Recently, we have presented a new tool as a way of measuring rainfall based on microwave radio links from cellular communication networks, by using an algorithm which converts the received signal level (RSL) into a two dimensional rain map.**

**This method can reveal fine-scale evolution of rainfall in space and time and allows observation of near surface rainfall at spatial and temporal resolutions of 1 km<sup>2</sup> and 1 minute. Such is not available from standard weather radar normally operating at 2 km<sup>2</sup> and 4-6 minutes. All this without additional installation and maintenance cost.**

**Microwave rainfall mapping over central Israel with up to 90 links will be shown with high correlation –up to 0.90- with rain gauges. This method has been implemented to all rain events since the last winter (2006/2007).**