Adaptive Tracking of Thunderstorm Cells at X-band
Andreas Leuenberger, Jordi Figueras i Ventura, Urs Germann, Marc Schneebeli and Jacopo Grazioli
MeteoSwiss, Locarno Monti, Switzerland
andreas.leuenberger@meteoswiss.ch

Introduction
Initial cell identification: C-band network
High resolution cell scan: X-band radar

Example: 2015-06-07
Tracked (very unusual) tornado in the Jura mountains

Adaptive tracking
In less than 2 minutes:
• PPI scan at 4° elevation: overview
• 3 RHI scans towards the core of the cell
• ZH, ZDR, KDP, ρHV, V, SW…

Conclusion
• MeteoSwiss storm-tracking at two different scales (C/X band)
• 3D sampling of convective cells (X-band)
• High resolution storm-scanning protocol: 75m, <2 min
• Unprecedented datasets

Perspectives
• Understanding + early warning of hail generating storms
• Improved operational response to severe weather

*Crowd-sourcing hail reports are provided by MeteoSwiss and Mobiliar Lab/University of Berne