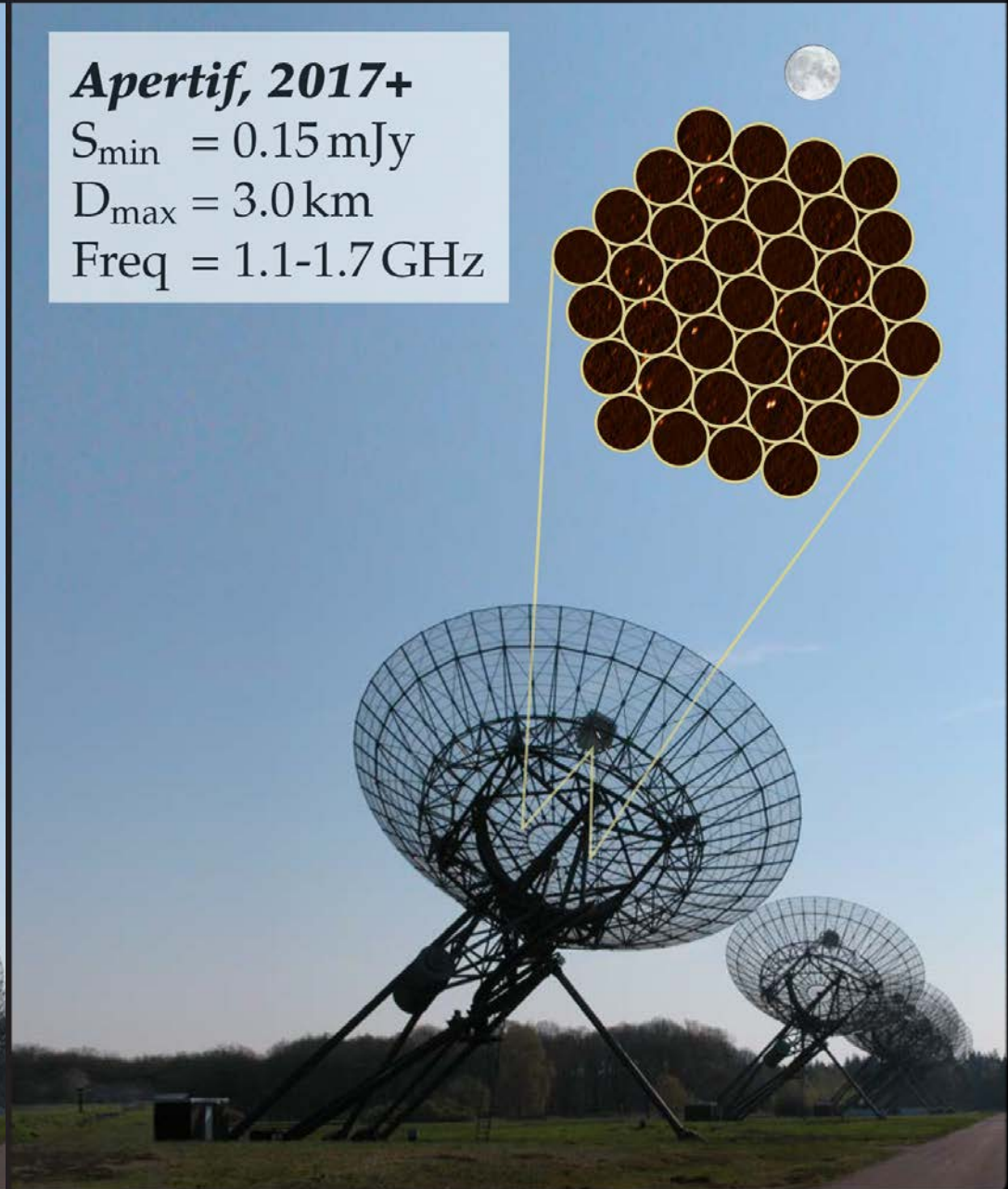


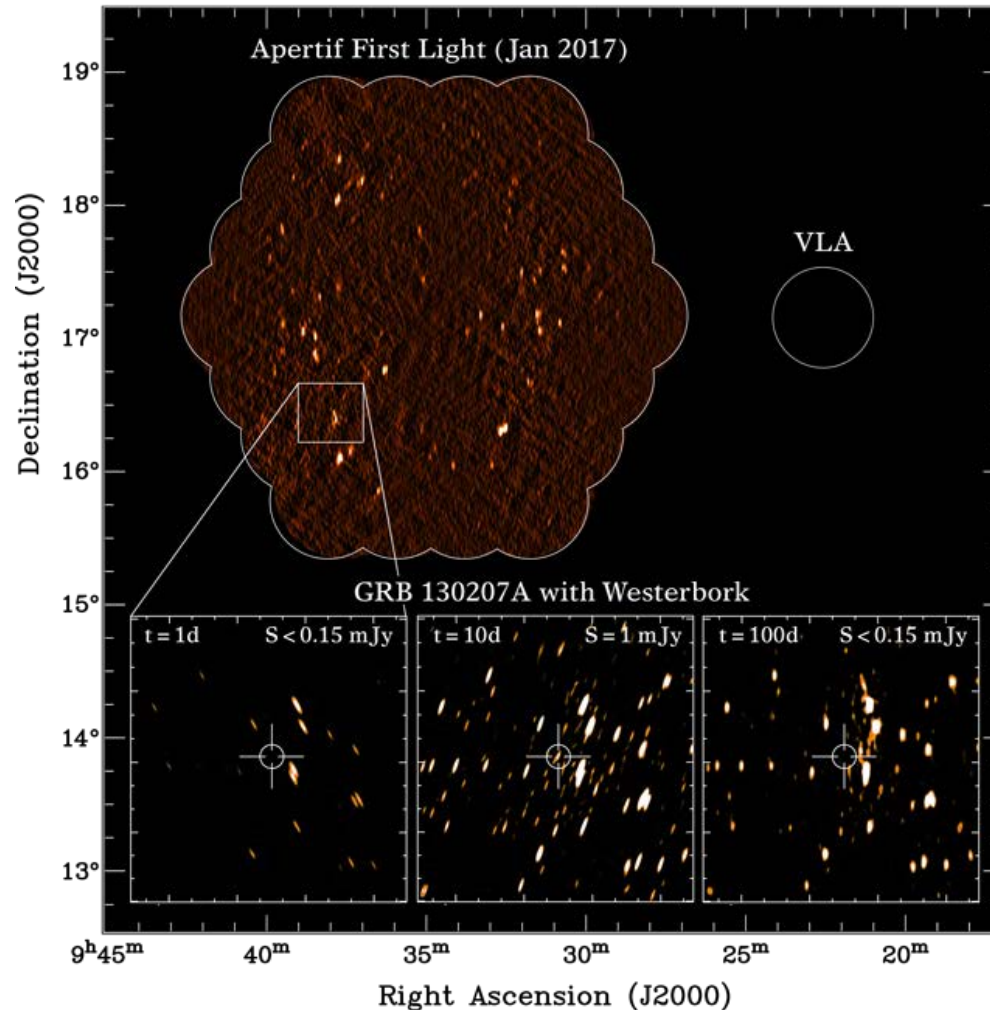
**Westerbork  
Previously**



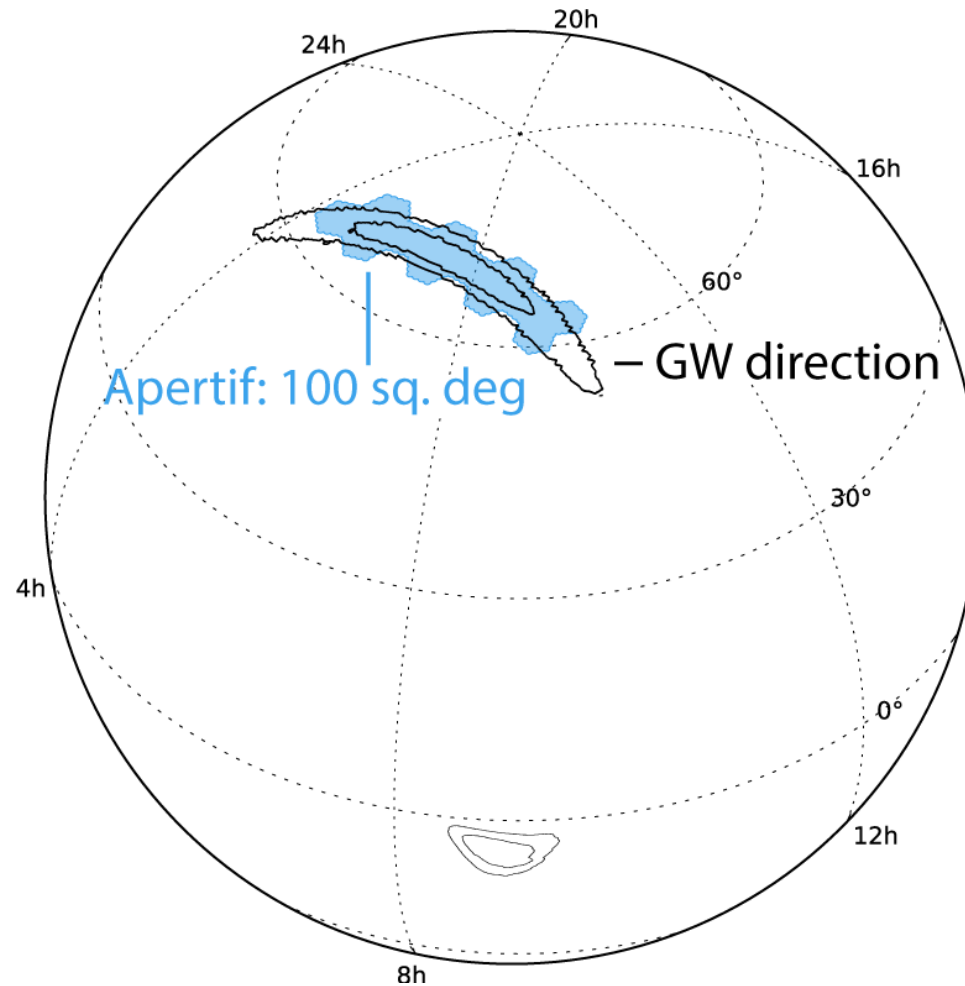
**Apertif, 2017+**  
 $S_{\min} = 0.15 \text{ mJy}$   
 $D_{\max} = 3.0 \text{ km}$   
Freq = 1.1-1.7 GHz



***A 9 sq. deg. Field for Afterglow Emission:  
First-light image vs. afterglow GRB 130207A***



***Fly's Eye Mode for Prompt Emission:***  
100 deg<sup>2</sup> field, real-time detection, arcsec localisation



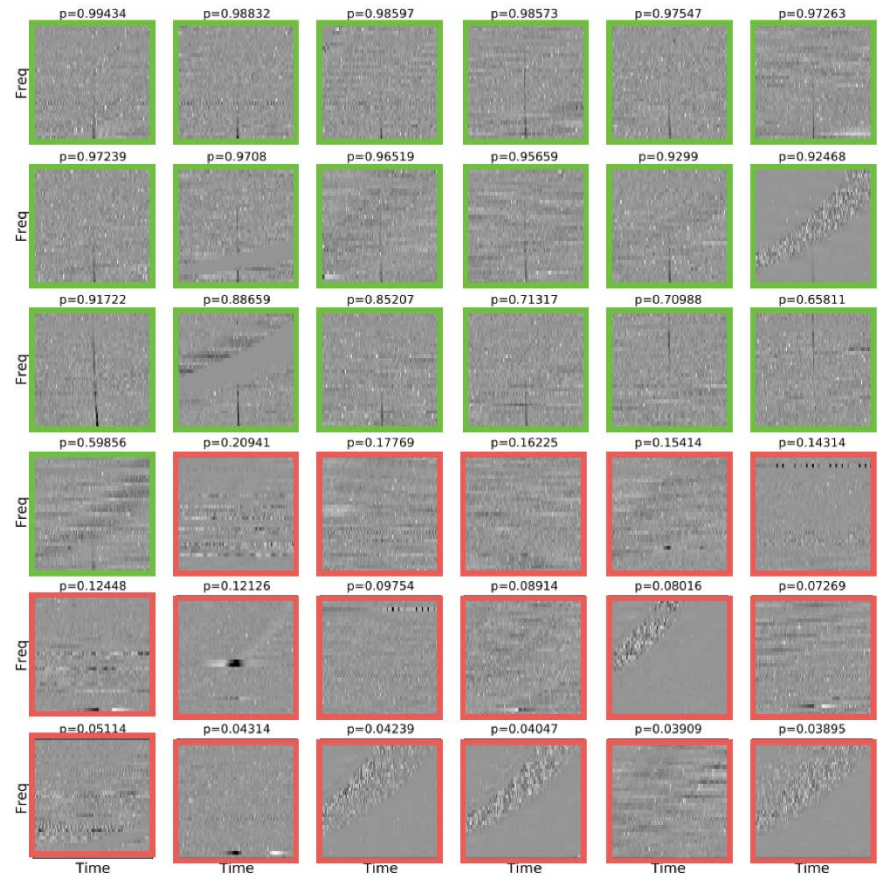
# Real-time GPU DSP + ML pipeline

## Digital signal processing



ARTS, The Apertif Radio Transient System  
a top-100 GPU supercomputer

## Machine Learning



(Connor & van Leeuwen 2018)