

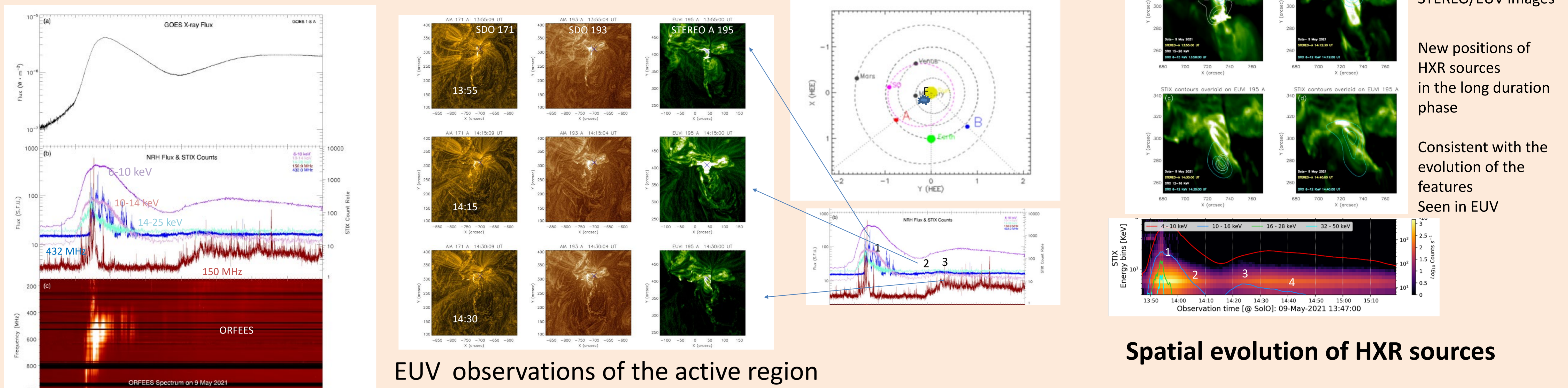
Energetic electrons in the corona

X-ray and radio observations of the long duration flare on 9 May 2021

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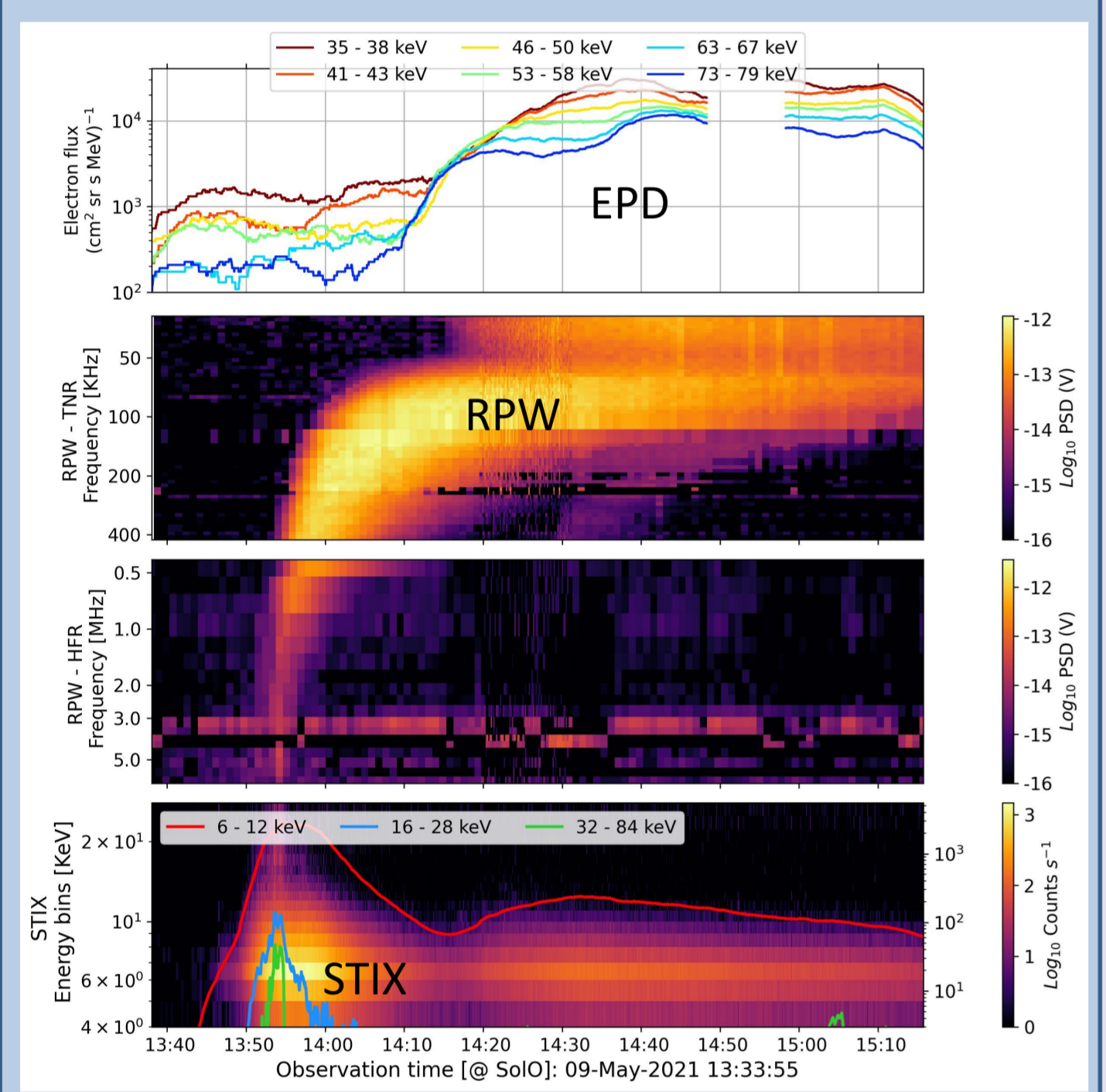
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The 9 May 2021 event: a long duration flare observed from multiple viewpoints.

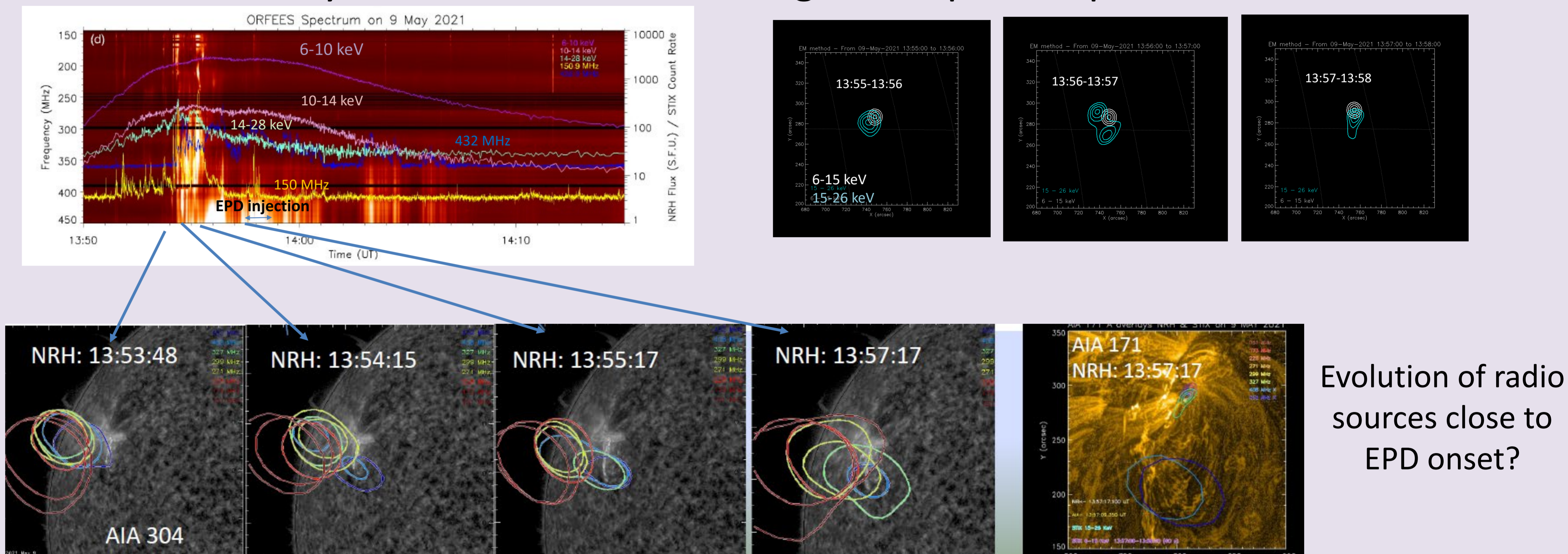


Associated electron event

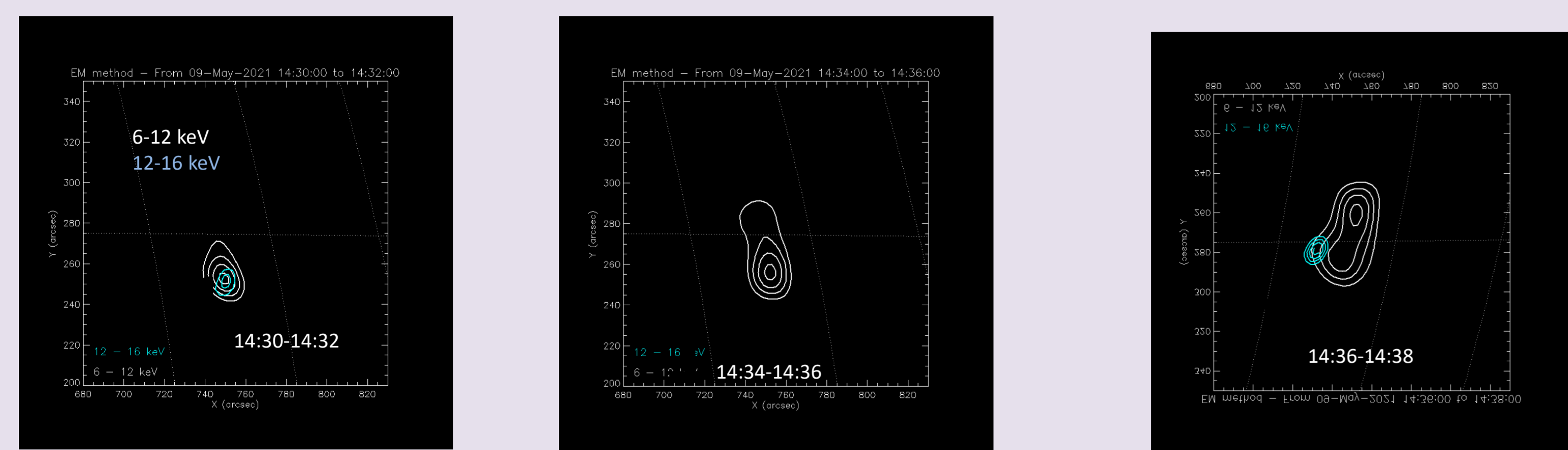
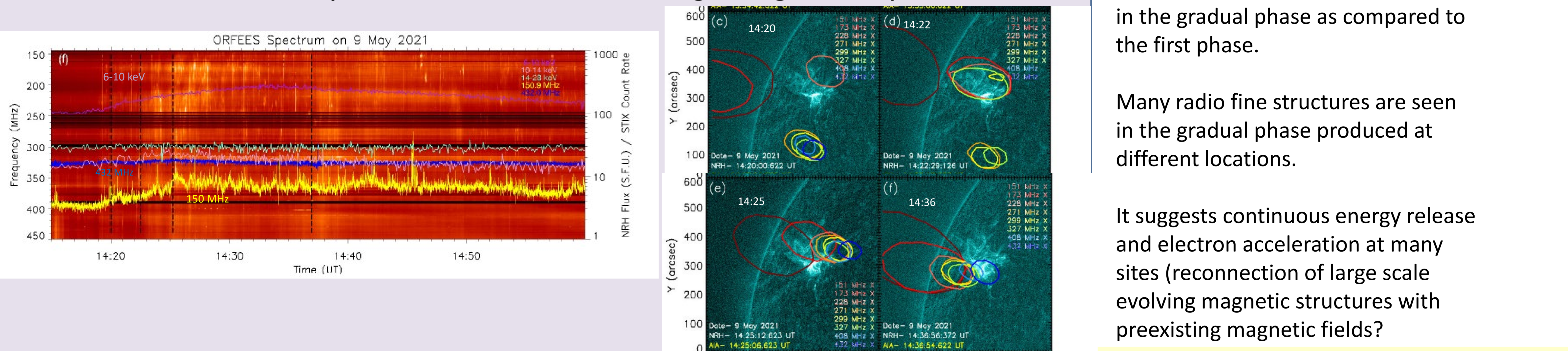
Electron event EPD Solar Orbiter
 Electron injection time UT@SOLO:
 Time shift analysis: 13:58:05 UT@SOLO
 Velocity dispersion analysis: 13:56:36 UT@SOLO
 +44 s for ground-based data comparison



Evolution of X-ray and radio sources during the impulsive phase



Evolution of X-ray and radio sources during the gradual phase



The X-ray thermal source changes of size and shape in the course of the gradual phase. It suggests continuous heating (energy release).
 The increase of the emission measure (see figure on the right) could be due to the increase of the emitting volume.

Non-thermal HXR sources are detected in some images in the gradual phase
 Some changes of HXR non-thermal emissions are close to changes of radio positions (see e.g. around 14:36)

All these observations suggest continuous and complex energy release in the active region during the long duration phase.

Spectral characteristics of HXR emissions?

