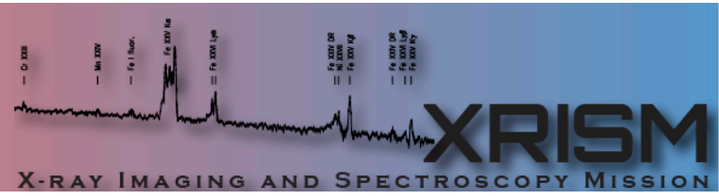
XRISM Observations of N132D and Cas A

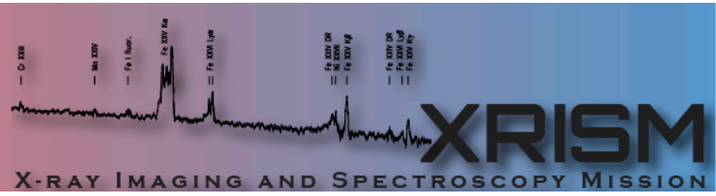
What might we learn that would affect the standard IACHEC models ?

XRISM Resolve Results

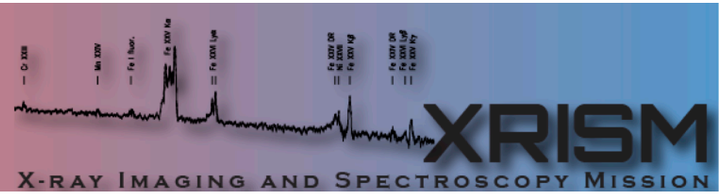


XRISM results are preliminary.
Please do *NOT* share outside the IACHEC community.
Please do *NOT* take any screenshots.

XRISM Resolve Spectrum of N132D



XRISM Resolve N132D



Key Results from Resolve:

- Resolve determines the ratios of the f,i,r lines in the triplets to high accuracy
- Resolve measures the redshift of the bright lines to high precision
- The measured redshift for Si and S is too small to measure with a CCD instrument
- The measured redshift for Fe is possible to measure with a CCD instrument but is now determined by Resolve to higher precision
- Resolve measures the broadening of the lines with high precision

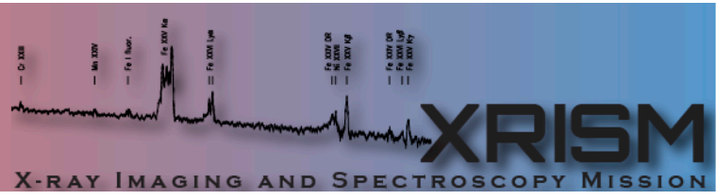
Possible Changes for the IACHEC Models:

- Adopt the measured ratios of the f,i,r lines in the triplets
- Adopt the measured redshifts
- Adopt the measured broadenings

Challenges for the IACHEC Models:

- What do we do for the lines below Si XIII ? We do have the RGS data. Do we assume the same or similar redshifts and broadenings ?

XRISM Resolve Spectrum of Cas A



XRISM Resolve Cas A

Key Results from Resolve:

- Resolve determine the ratios of the f,i,r lines in the triplets to high accuracy
- Resolve measures the redshift of the bright lines to high precision
- However, the line broadening is larger in Cas A than N132D

Possible Changes for the IACHEC Models:

- Adopt the measured ratios of the f,i,r lines in the triplets
- Adopt the measured redshifts
- Adopt the measured broadenings

Challenges for the IACHEC Models:

- The relatively large line broadening will make it more difficult to constrain the ratios of the f,i,r lines
- How do we make use of the spatially resolved data from Resolve ? Do we generate model spectra from multiple regions ?
- What do we do for the lines below Si XIII ? Do we assume the same or similar redshifts and broadenings ?