

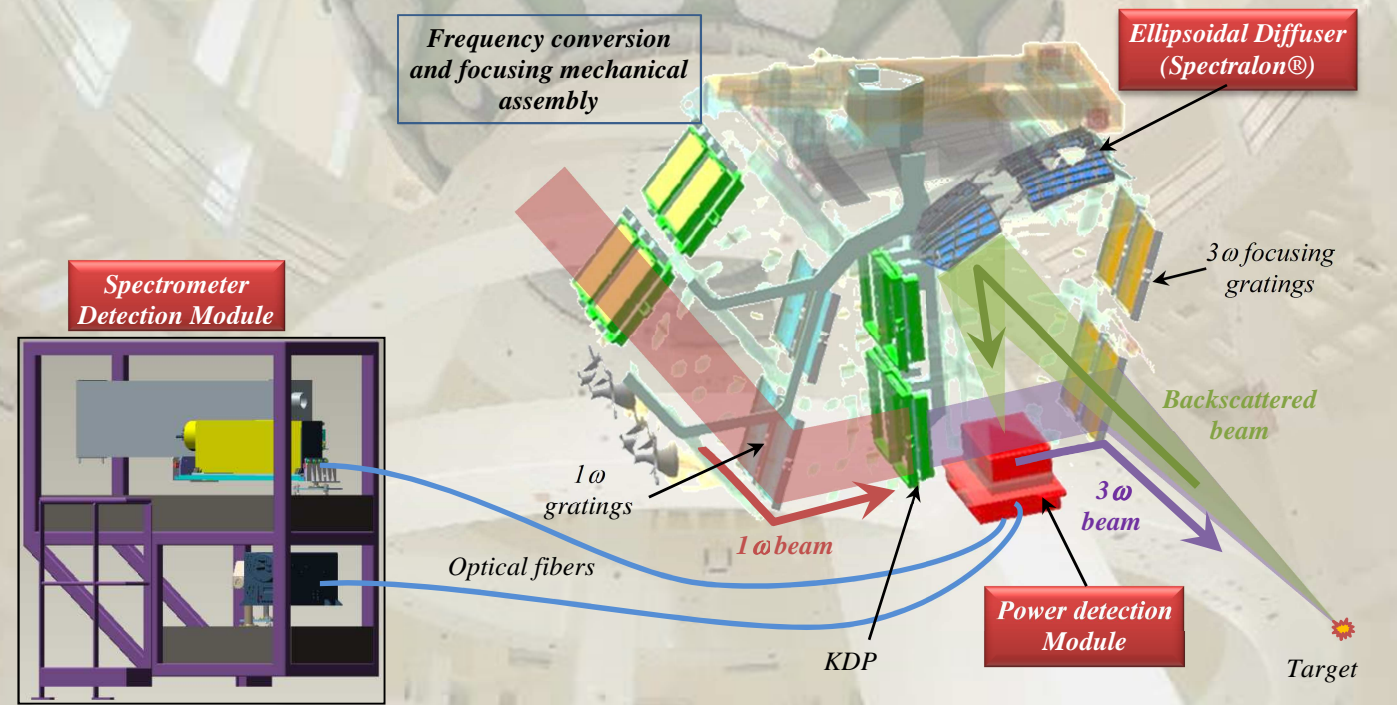
# FABS

## Full Aperture Backscattering System

The FABS is dedicated to analysis of backscattered light in the focusing cone of quadruplet 28U (and later 29U). The backscattered energy is collected with an ellipsoidal Spectralon® scattering panel and sent to the Raman-Brillouin spectrometer.

The ellipsoidal scattering panel is located behind the  $3\omega$  gratings that are used on LMJ to deviate, to filter, and to focus the laser quadruplet on target. It is positioned so that the first focus of the ellipsoid is the TCC. The detection module is positioned at the second focus of the ellipsoid. It includes power detection and optical fibers which transport signal to spectrometers.

The Brillouin and Raman backscatter is measured with a 100 ps temporal resolution. *In situ* calibration of the diagnostic is possible with a xenon calibrated lamp located outside the chamber, behind a chamber vacuum window at the opposite of the conversion and focusing mechanical assembly.



Characteristics	Measurement or Spectral range (nm)	Spatial resol. / Field of view	Time resol. (ps) / Dynamic (ns)	Setting/ Operational
Brillouin spectrometer $\Delta\lambda < 0.05$ nm	346 - 356	without	50 / 5 to 250 / 25	Focusing system quad 28U
Raman spectrometer $\Delta\lambda < 5$ nm	375 - 750			
Time integrated calibration spectrom.	350 - 700 375 - 750		Without / 5 to 25	2019
3 Brillouin power channels	< 360		250 / 25	
2 Raman power channels	350 - 750		500 / 25	
1, 2, 3ω power channels	1053, 526, 351			