

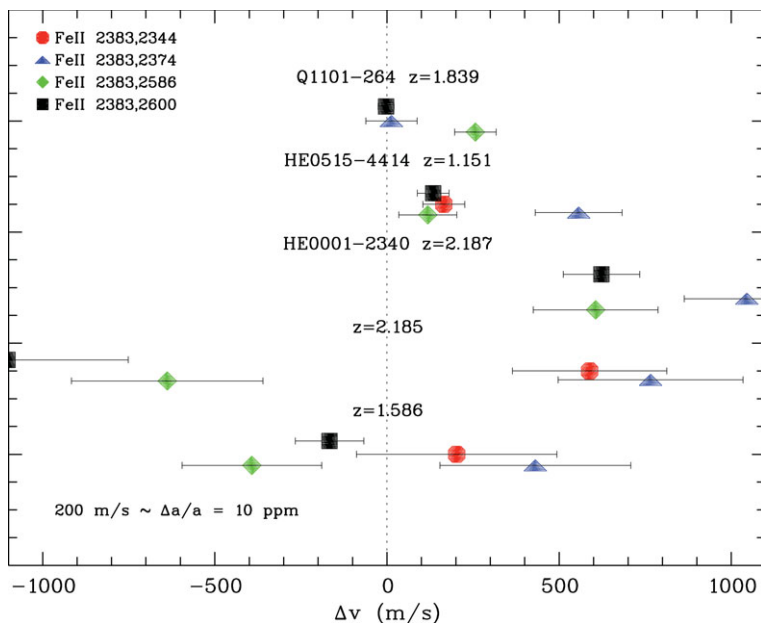
## Calibration issues in $\delta\alpha/\alpha$

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Laser Comb Wavelength calibration shows ThAr one locally unreliable with deviations up to  $100 \text{ m s}^{-1}$  (or  $\delta\alpha/\alpha \approx 7 \cdot 10^{-6}$  for a Fe II–Mg II pair) while delivering an overall  $1 \text{ m s}^{-1}$  accuracy. Comparison of line shifts of the 5 Fe II lines with identical sensitivity to  $\delta\alpha/\alpha$  offers a clean way to test local wavelength calibration errors of whatever origin.



We analyzed 5 absorption systems, towards 3 QSOs. The results are shown in the Fig. Some lines are aligned within  $20 \text{ m s}^{-1}$ , but others reveal large deviations reaching  $200 \text{ m s}^{-1}$  or higher (or  $\delta\alpha/\alpha \geq 10^{-5}$ ). The origin of these deviations is not clearly identified. These results suggest that extreme care is needed before drawing conclusions from  $\delta\alpha/\alpha$  analysis based on one or only few lines.