Figure 10. Instantaneous fractional uncertainties in snowfall rate. The central line shows mean fractional uncertainties and the error bars show +/- 1 standard deviation.

Figure 11. Instantaneous fractional variances for snowfall rate resolved by source.

4.2 Information content

The optimal estimation results allow easy calculation of a number of metrics that quantify retrieval performance in terms of information content (Rodgers, 2000; Shannon and Weaver, 1949). These include the averaging kernel matrix

\[ A = \left( K^T S_c^{-1} \hat{K} + S_a^{-1} \right)^{-1} K^T S_c^{-1} \hat{K}, \]  

(22)