As you mentioned in the short comments, the fast response eddy flux sensors are very sensitive to precipitation and the observations during the precipitation are not available. Yes, we should pay much attention to this problem in ECF's data quality control, the eddy flux measured by ECF during precipitation must be rejetced for further comparison and research. However, due to the limitation of scientific research funds, no precipitation observation equipment is installed on the YXASFT, and the eddy flux (SHF and LHF) measured by ECF system was directly used to compare with COARE3.0. So, in the chapter 3.1 of this paper, we illustrated this problem with the description of "A larger difference in the LHF measurement occurs when relatively larger LHF values are observed (e.g., 2016/02/07 and 2016/02/25), which can be readily observed in **Fig. 3a**.The precipitation on these days is the most likely explanation for the overestimation in the LHF by the ECF system (Mauder et al., 2006). Although the YXASFT possesses a lack of field precipitation observations, we can speculate that precipitation may have occurred on 2016/02/07 based on a 1.8℃ drop in the air temperature and an increase of 13% in the relative humidity within the daily mean."

We took your suggestions and compared the mean variables (30 min averaged wind, temperature and humidity) obtained from the fast response instruments and slow response instruments. As we can see from Fig.1, the two sensors could accurately measure the temperature and wind speed, and both were not affected by the precipitation. But, in term of water vapor observation, the fast response sensor EC150 made by CSI was obviously disturbed by the precipitation, and the data will be seriously polluted. In the period of comparison, four times of possible precipitation was marked by dashed ellipse in Fig.1, the time of four possible prepication were on 2016/02/03, 2016/02/07, 2016/02/25, 2016/03/26, respectively. Strictly speaking, the ECF data in these four time windows must be eliminated before compared with COARE3.0. In this paper, we didn't eliminate the possible data polluted by precipation, but it almost does not affect the validation. The LHF comparison between eddy convariance and COARE3.0 (Fig.3) shows a good consistency except for the above mentioned possible precipitation windows. We agree very much that if the ECF data during precipation days were eliminated, the comparison between CAORE3.0 and ECF will be more consistent, which will further demonstrate the reliability of the COARE3.0 algorithm in SCS. In the next study, we will install the precipitation observation equipment on the YXASFT to improve the reliability of ECF data.

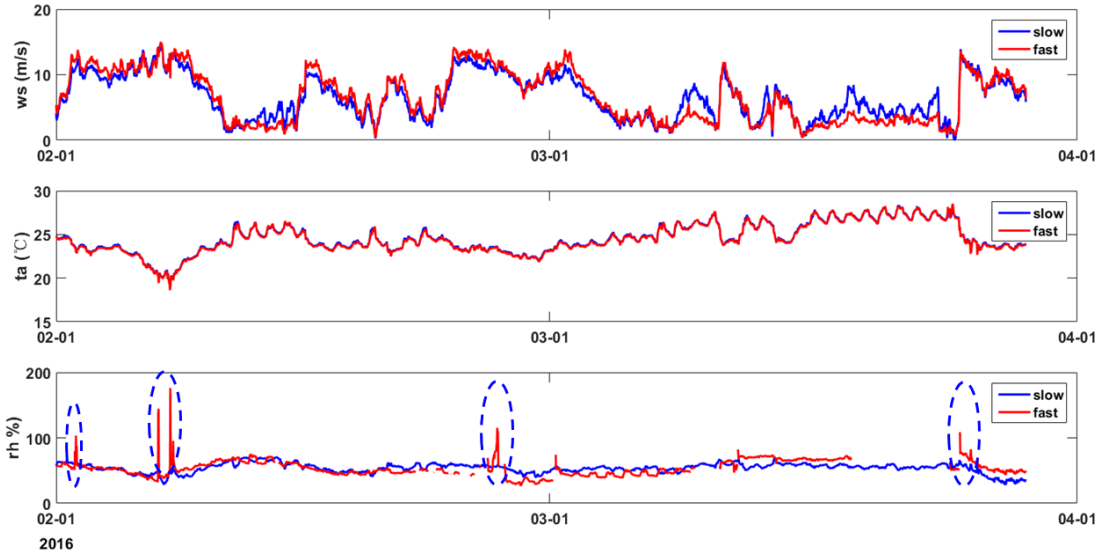

Fig.1 Time series of observed windspeed (ws), air temperature (ta), air relative humidity (rh) by the slow and fast response sensors, respectively. The time windows for possible precipitation were marked by dashed ellipse.