Fig. 14. COARE IFA lag regressions of $T$ and $q$ vs. moisture budget-derived rainrate. Autocorrelation curves (scale at right) are shown at the base of each panel. (a) IFA $T$: 0.060 K per mm/h; (b) IFA $q$: 0.060 g/kg per mm/h.

$q$ to $T$ anomalies appears to be smaller for fast (wavelike) variability, and larger for intraseasonal variations. In the case of Fig. 13, the cloud model’s convection was clearly organized by gravity waves, which must propagate via the density ($T$) field, and are thought to orchestrate convection also through the $T$ field. There the ratio of the magnitudes of lower-troposphere moistening ($q$) and cooling ($T$) anomalies is less than 2:1 (in g/kg:K units, respectively). In contrast, at lags $<-2$ days, Fig. 14 depicts $q:T$ anomaly ratios exceeding 4:1.

This substantial difference of $q:T$ ratio between convectively coupled waves and intraseasonal variability appears to be supported by other data. Our own analyses (not shown) indicate ratios near or less than 2:1 for the relatively fast variations in EPIC, in the easterly waves of the classic