Plasma elongation of RE beam

February 2, 2015

Plasma elongation

The plasma elongation k is defined as the ratio between the vertical and horizontal plasma length. There are a quesi-static relationship between the elongation k and the current I_F of the form

$$k = f(I_F) \tag{1}$$

which can be approximated by the map

$$k_{appr} = k_0 - k_1 \frac{I_F}{I_P} \tag{2}$$

which is affine in I_F. I_F is the current of active coil F, I_P is the plasma current, $k_0 = 1.03$ and $k_1 = -4.61$.

Plasma elongation. Shots 35965, 36569, 36574 and 36634

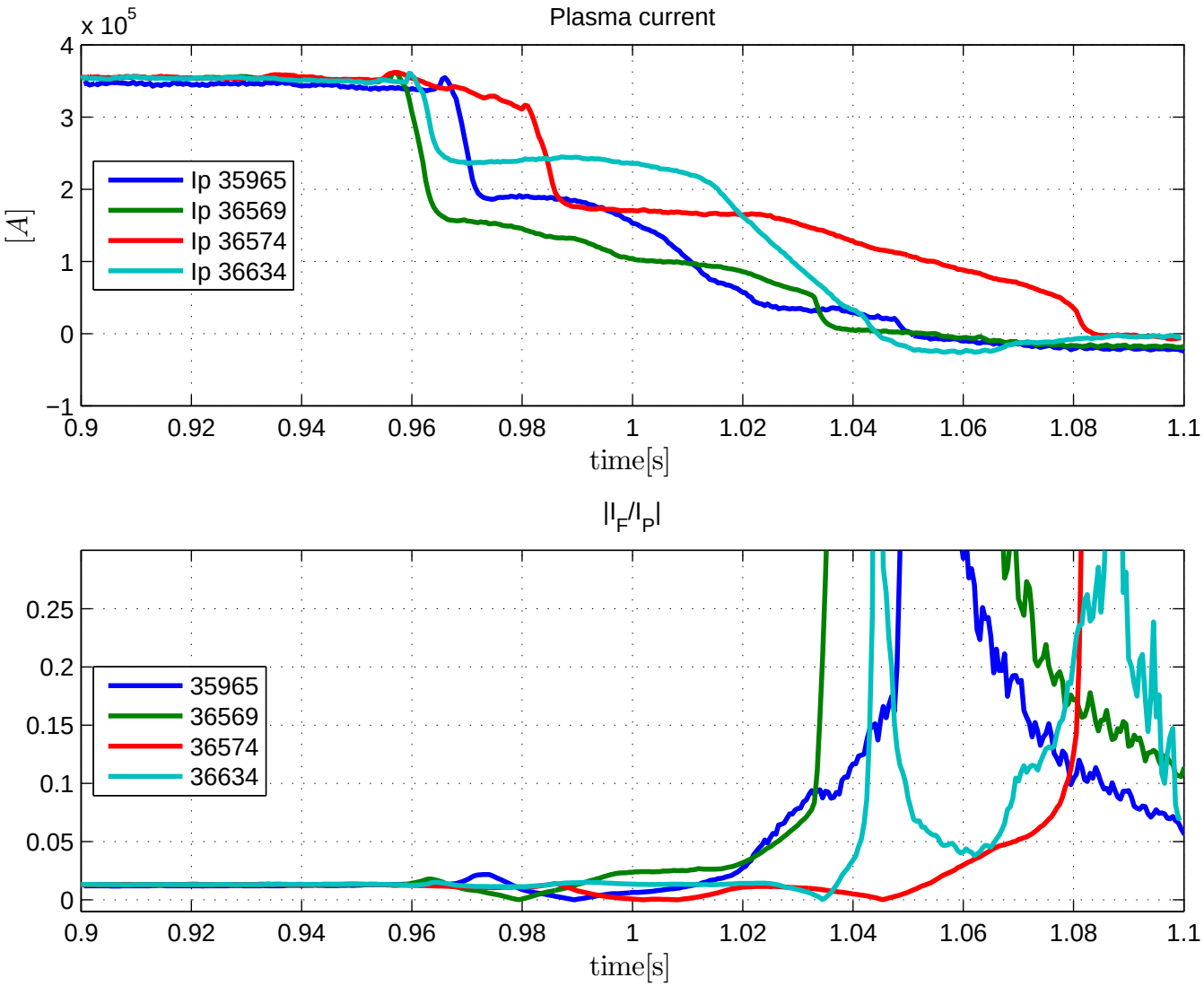

Figure: Shots 38864, 38865 and 3886

Plasma elongation. Shots 35965, 36569, 36574 and 36634

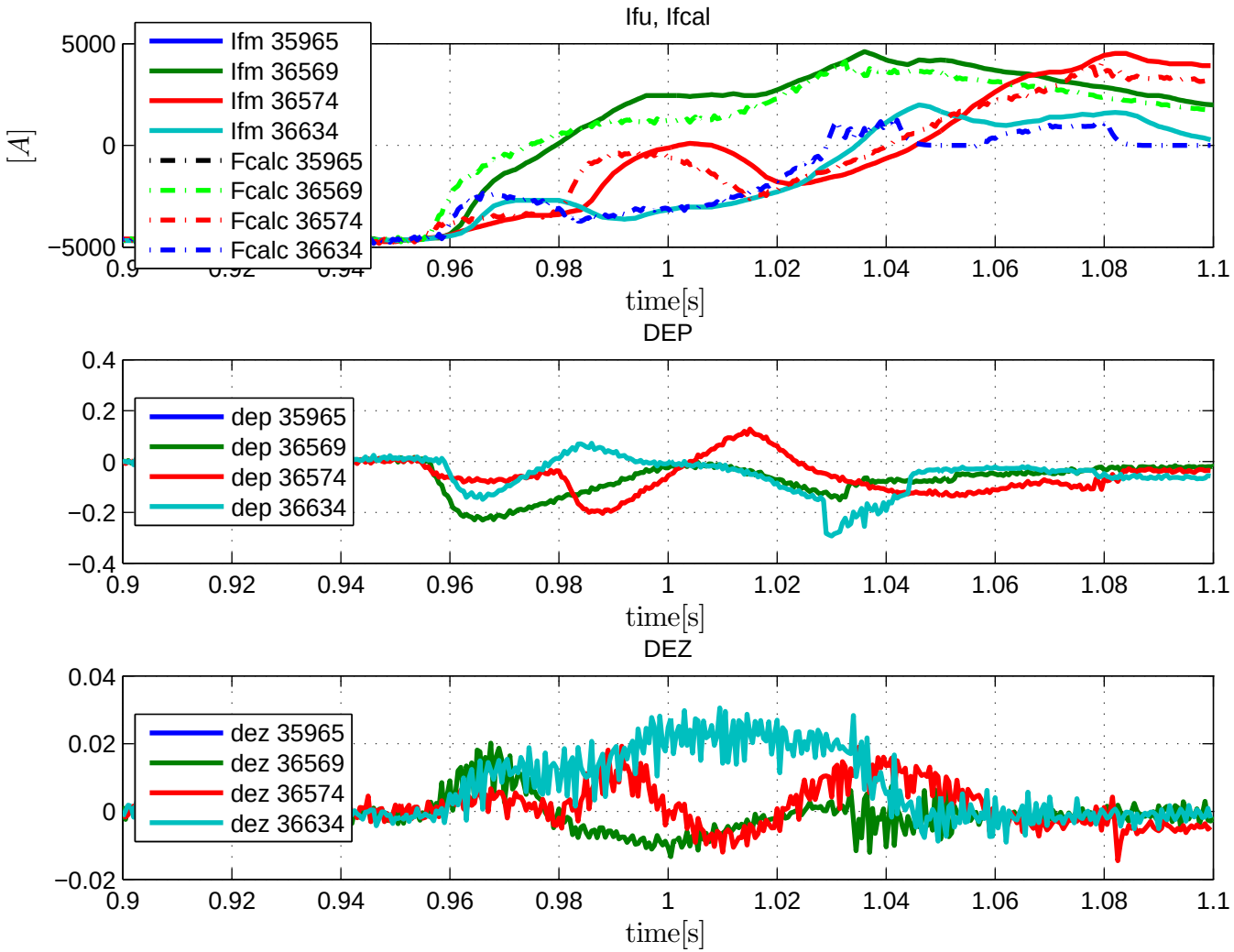

Figure: Shots 38864, 38865 and 3886

38513, 38519

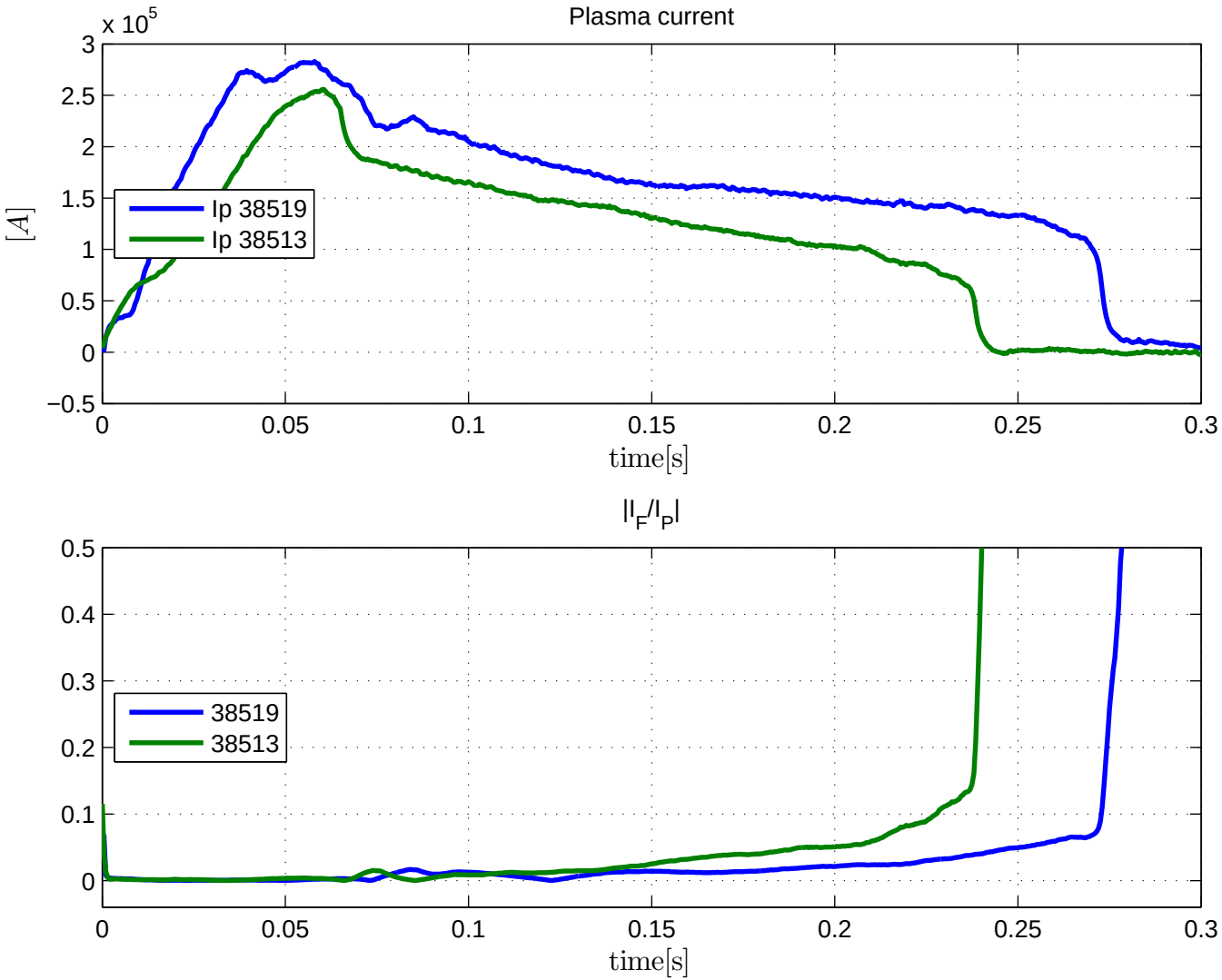

Figure: Shot 38513 and 38519.

38513, 38519

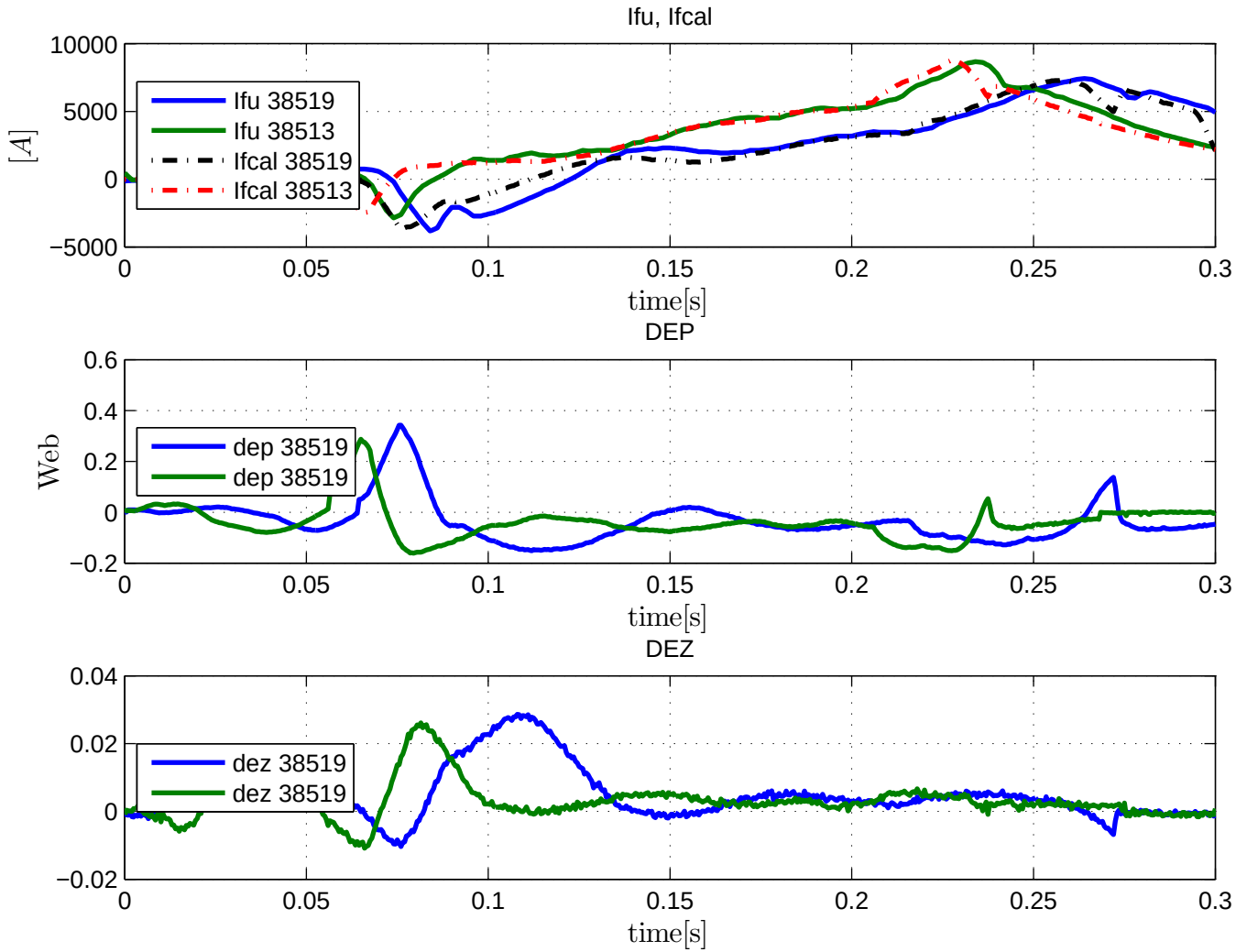

Figure: Shot 38513 and 38519.

38864, 38865 and 38869

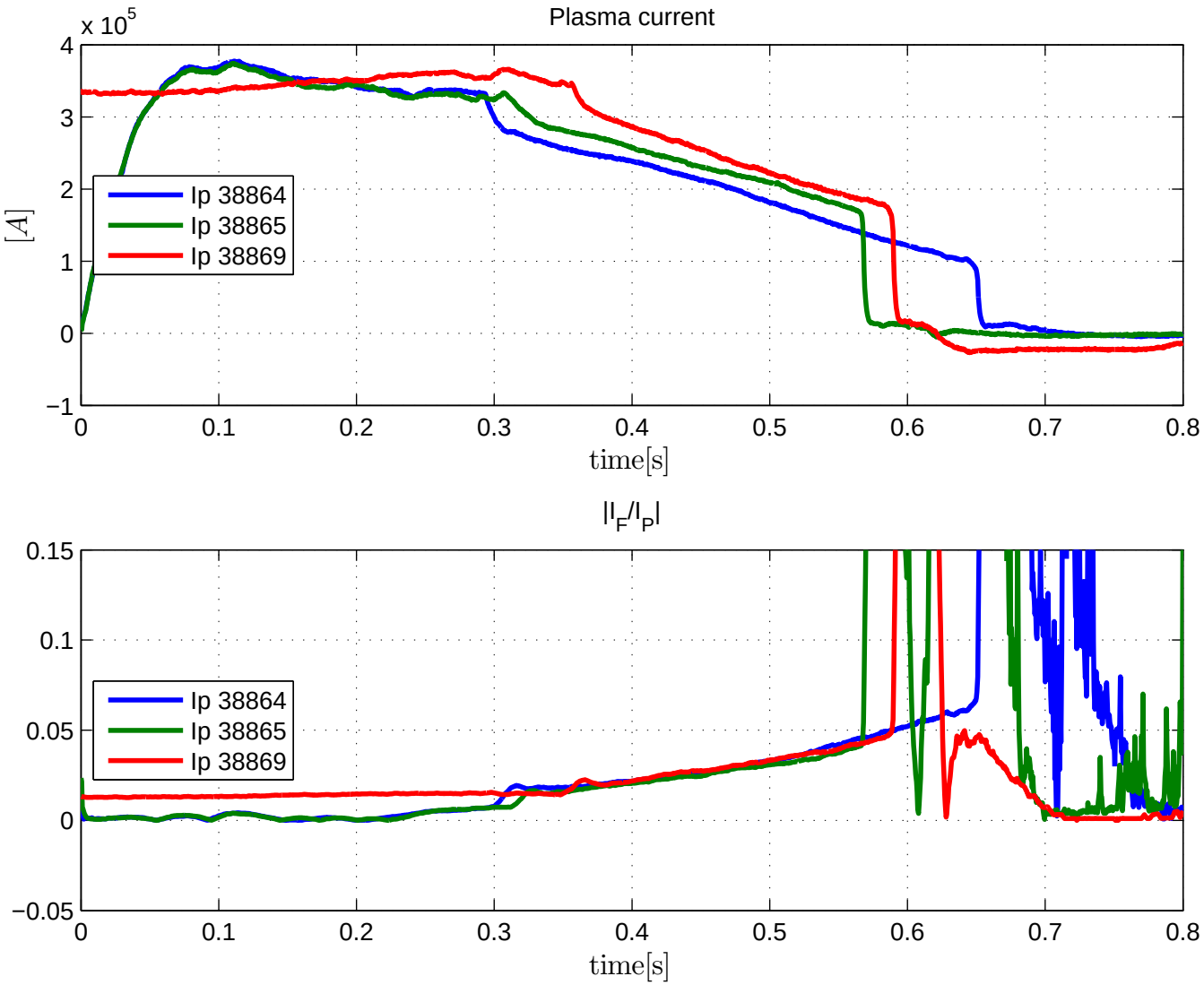

Figure: Shots 38864, 38865 and 3886. Vertical instability.

38864, 38865 and 38869

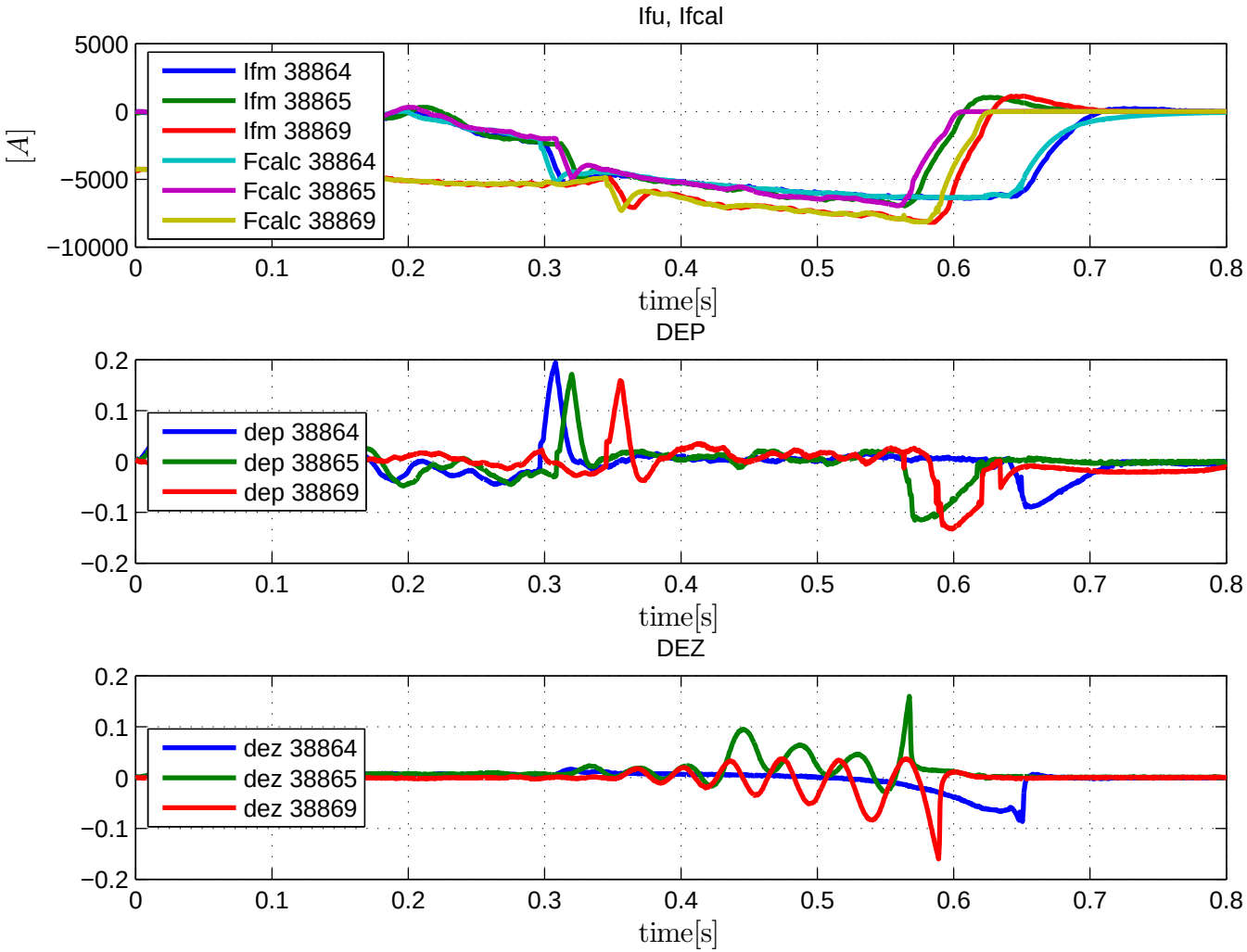

Figure: Shots 38864, 38865 and 3886. Vertical instability.