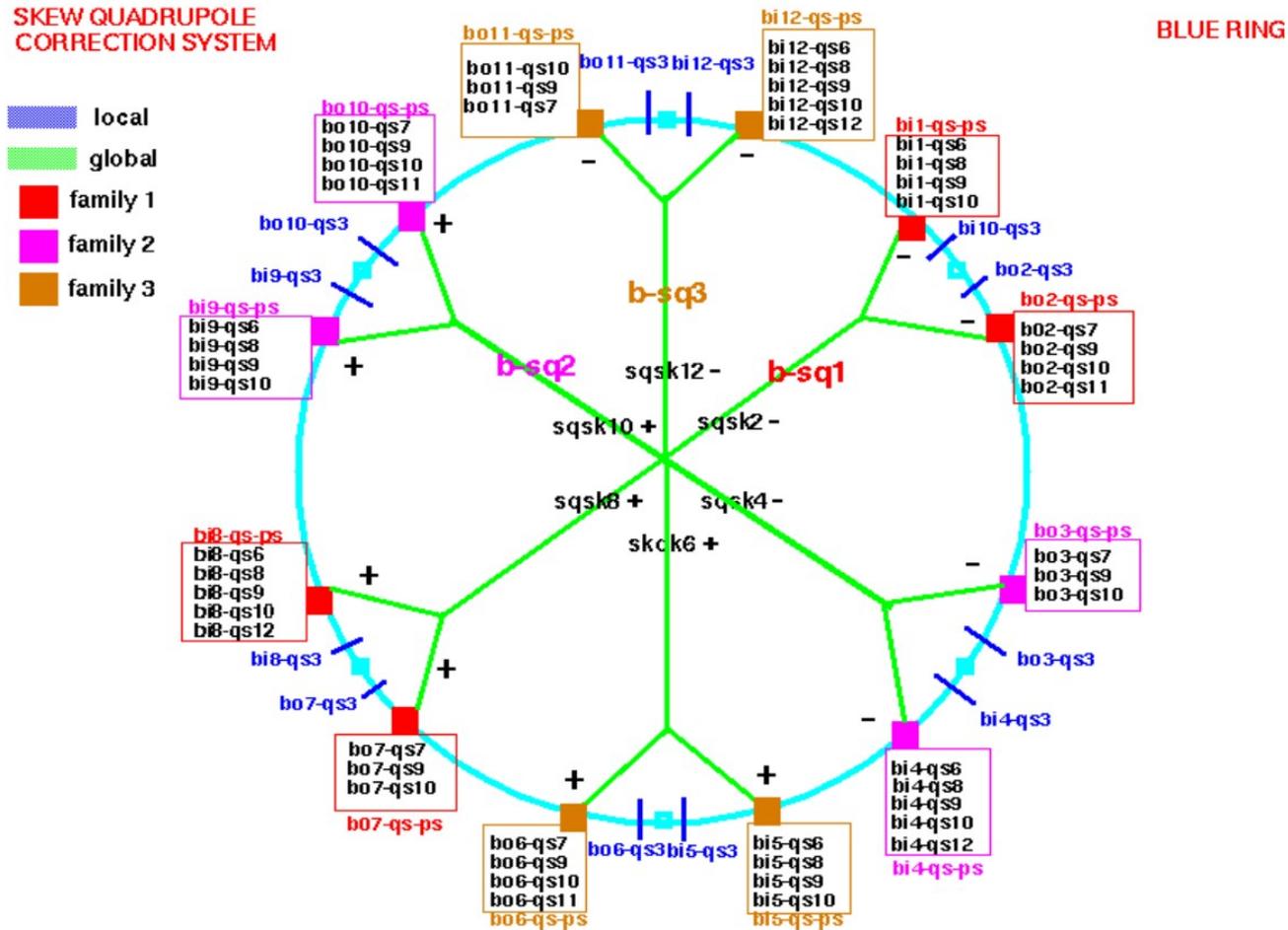# New global decoupling scheme
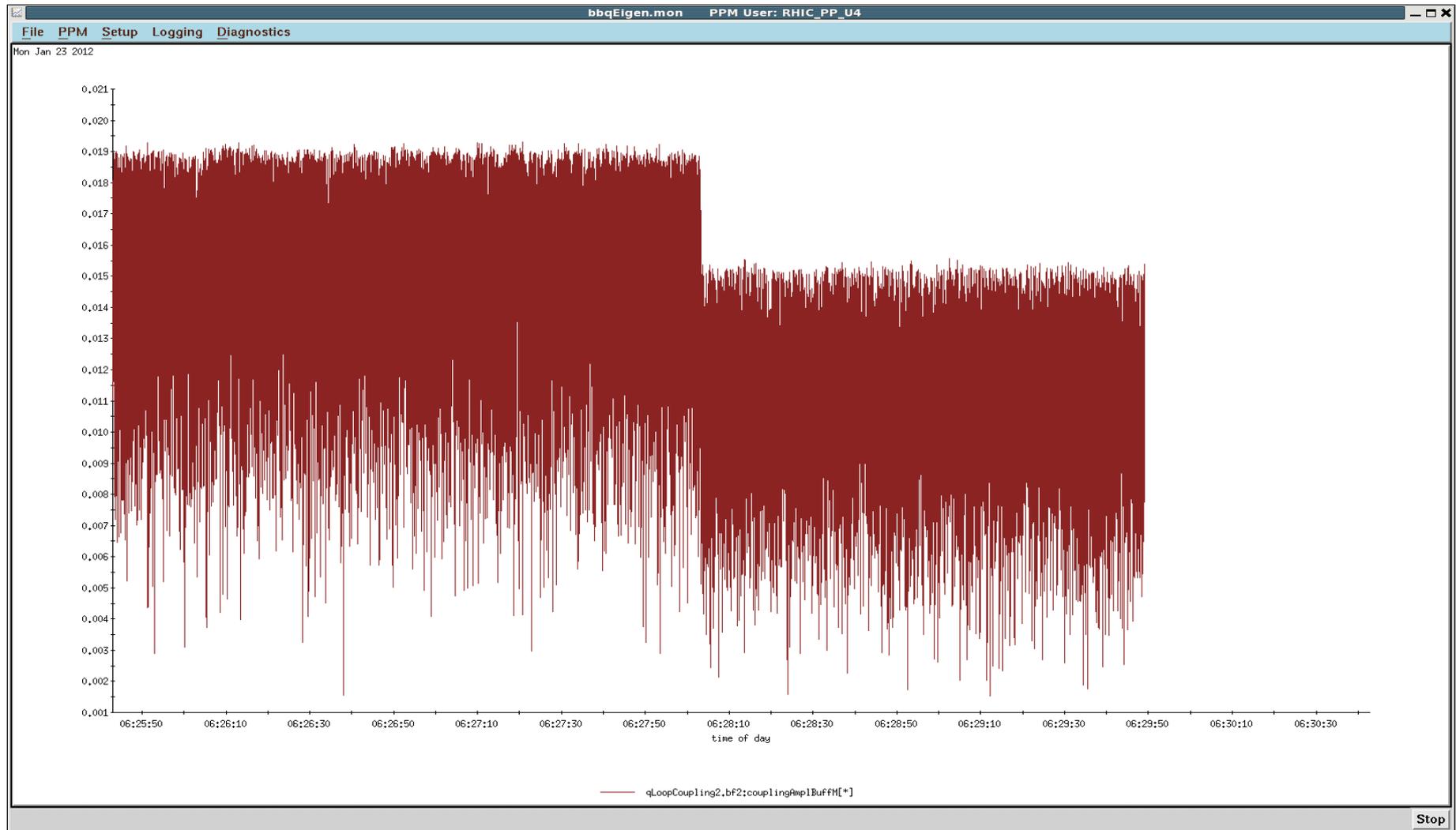
C. Liu, Y. Luo, M. Minty, A. Marusic
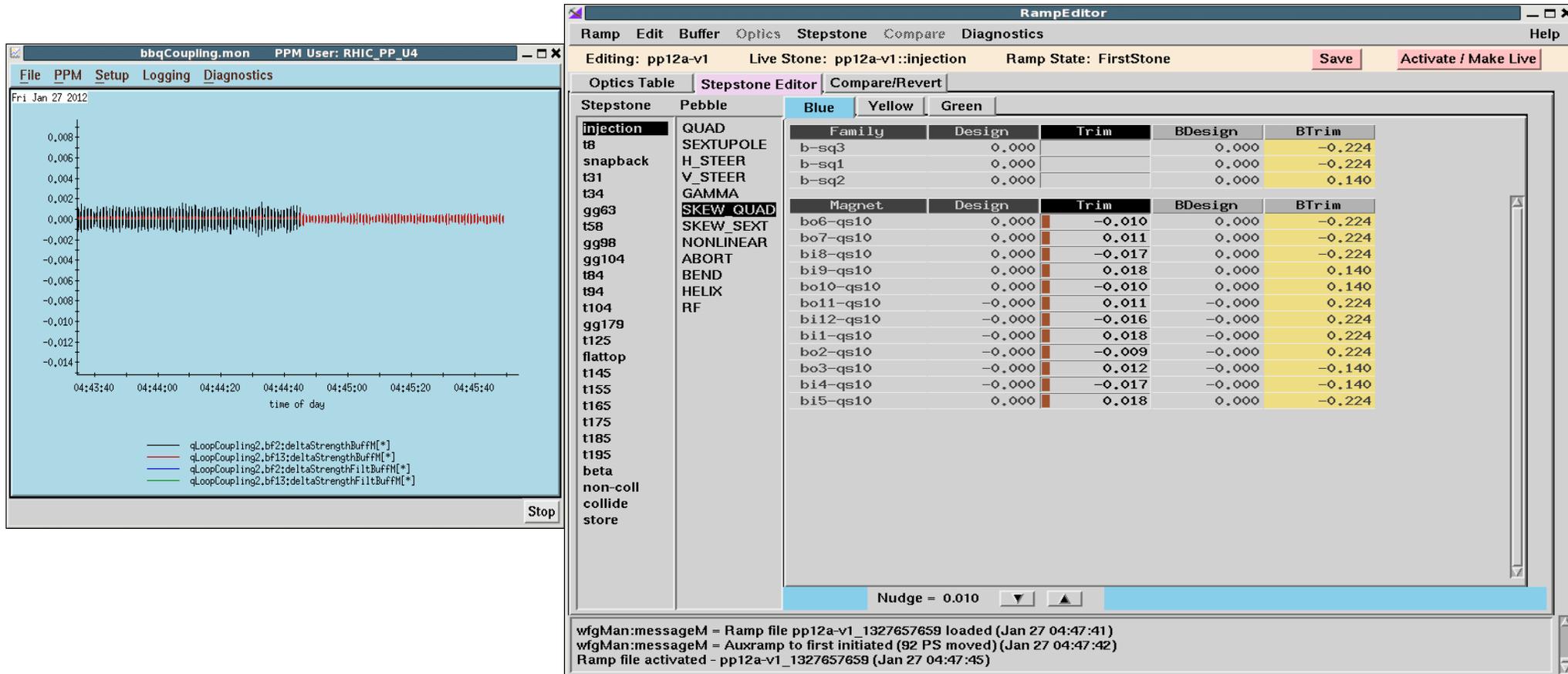
Background

Goal: compare 12-family (skew quads) + SVD global decoupling scheme with existing 3-family + coupling angle scheme
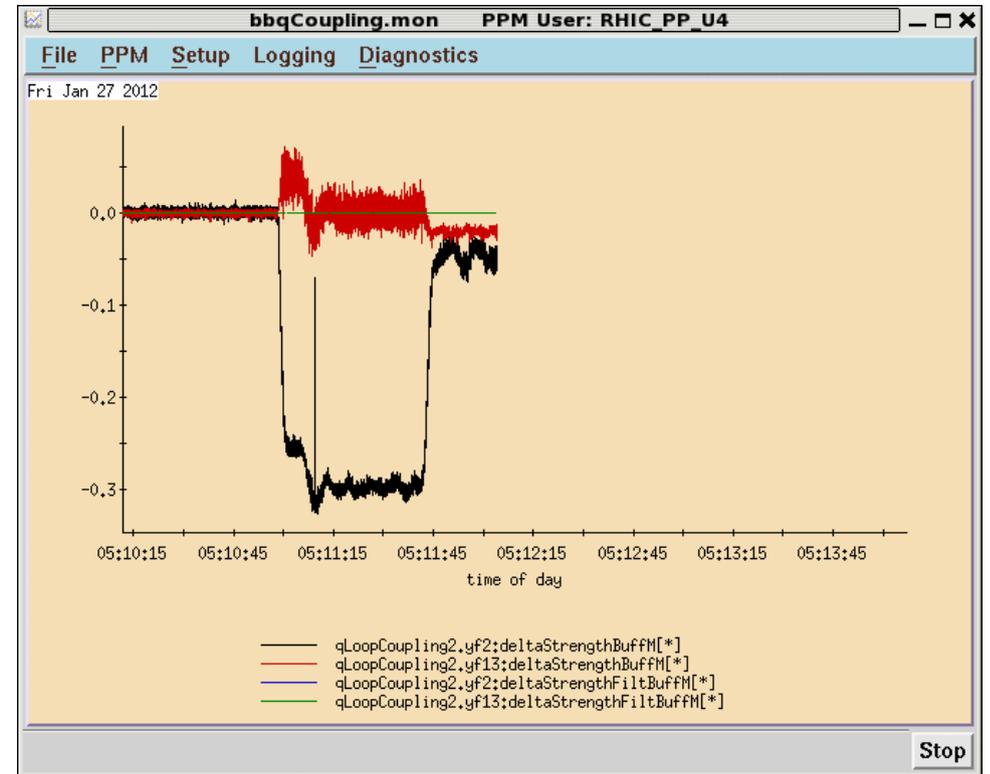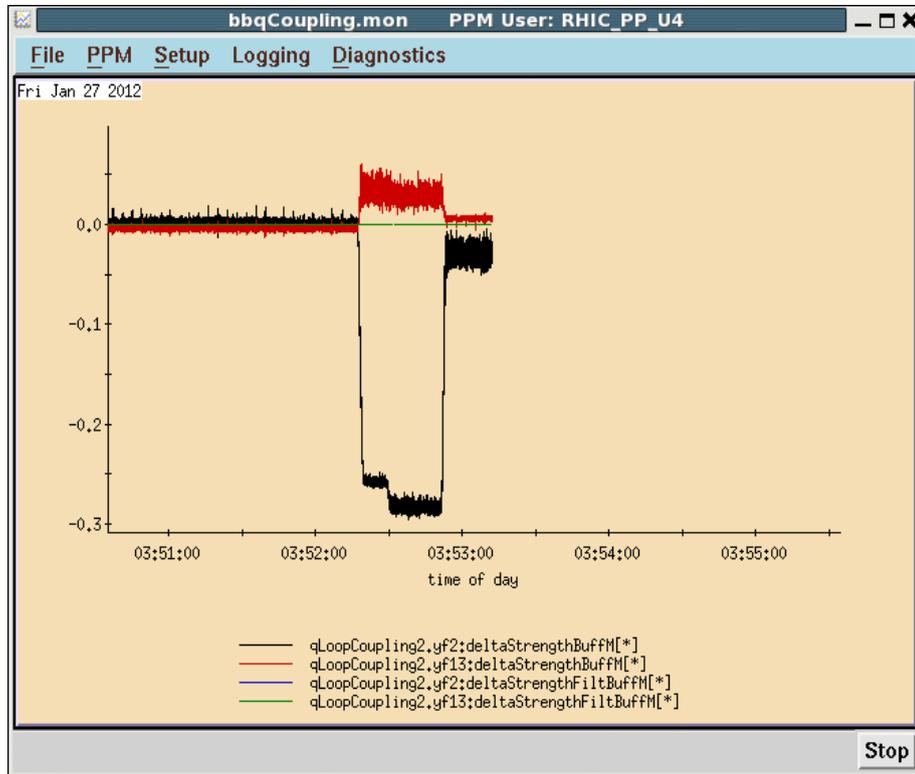
Beam studies before APEX

Blue at injection, coupling strength and angle from BBQ. It's hard to make further improvement with this signal, or in other words, I need to understand BBQ signal better.

We switched to a new strategy: get coupling strength from existing skew quads strength and Yun's coupling monitor, decouple with new algorithm and check if signal from coupling monitor stays the same.
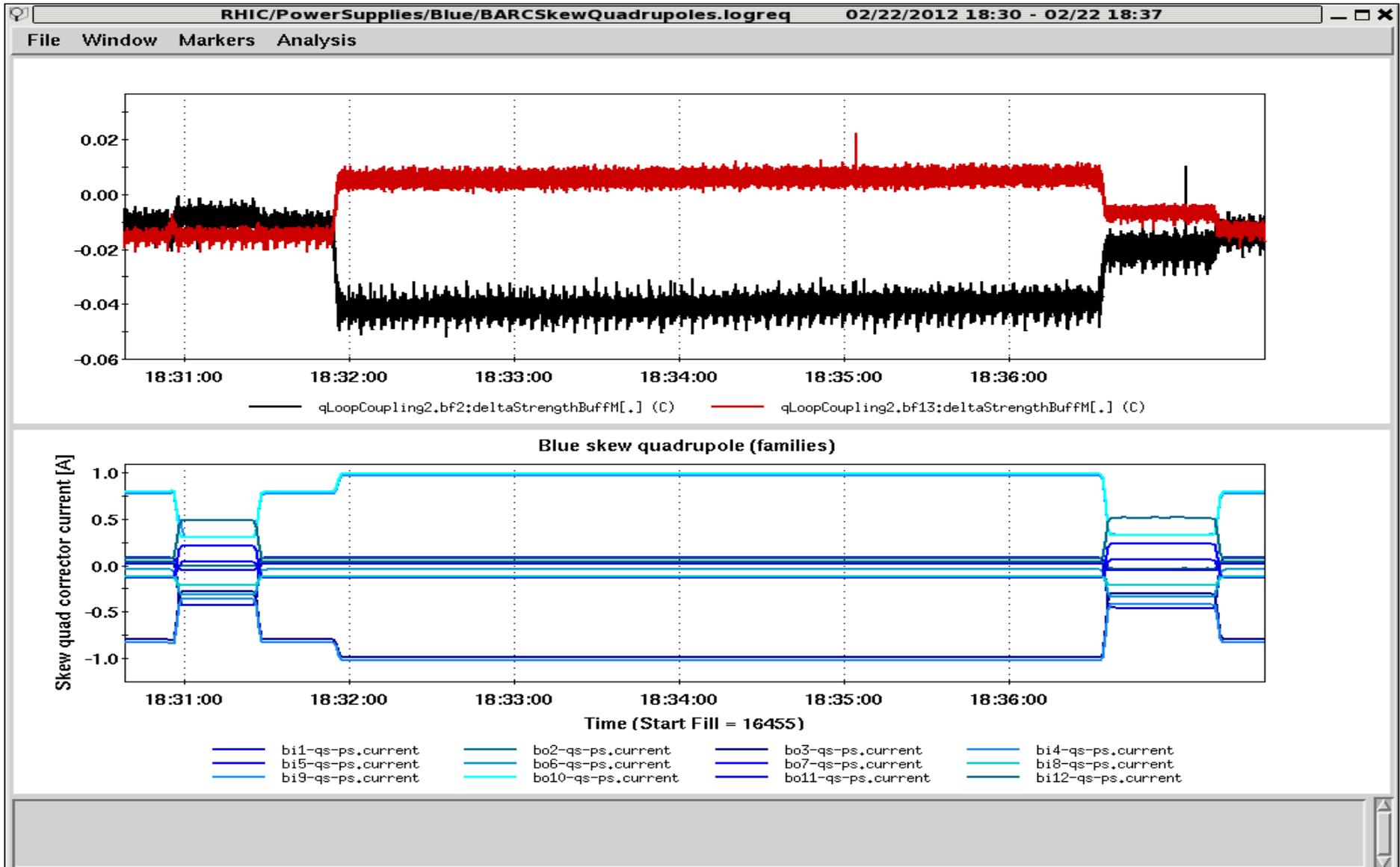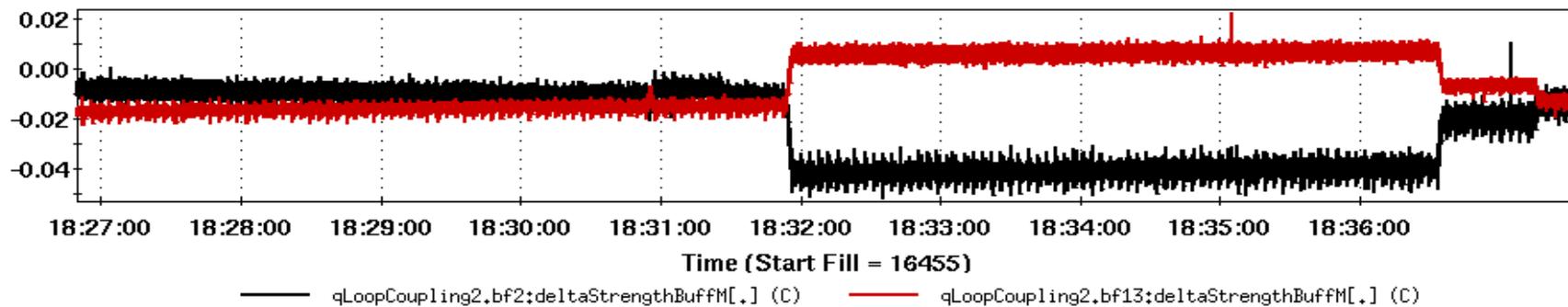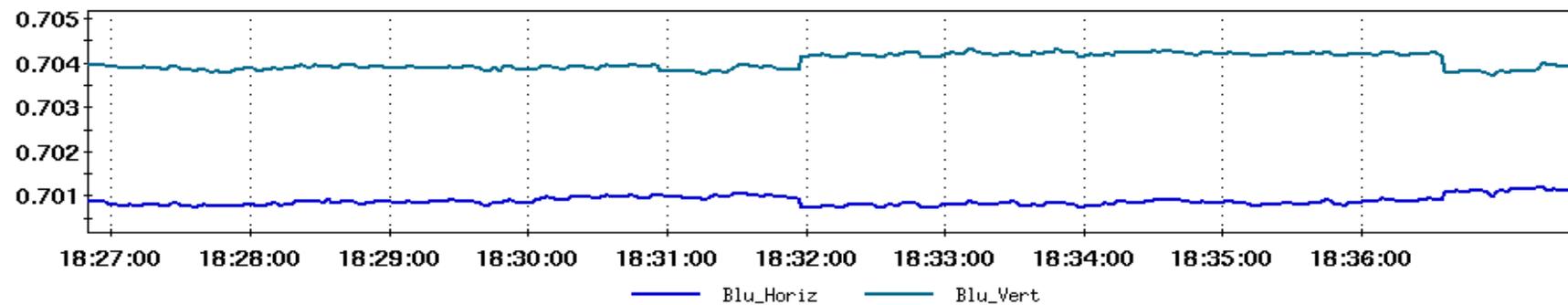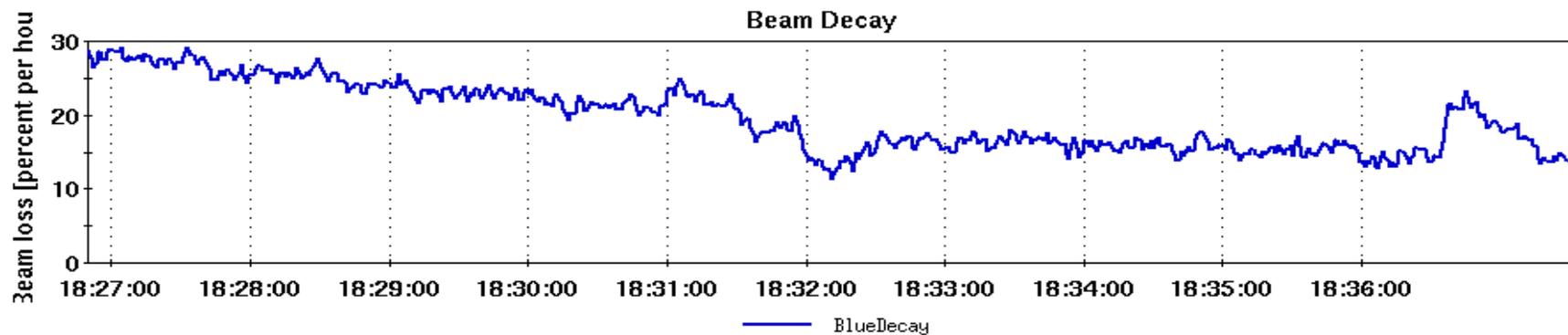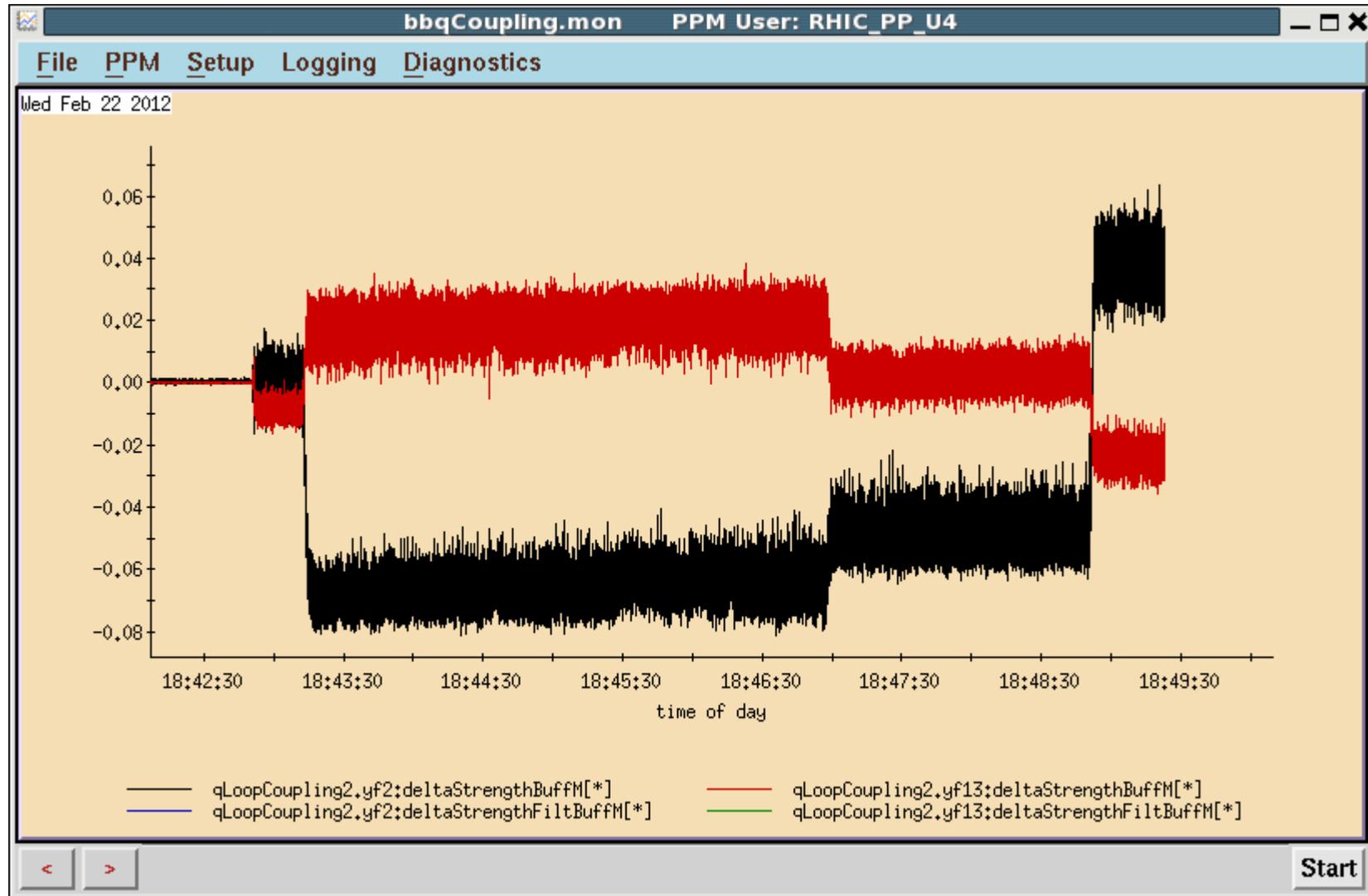
Problems in yellow:

Studies during APEX

Blue at injection:

File   Window   Markers   Analysis

Beam Decay

BlueDecay

Blu_Horiz   Blu_Vert

Time (Start Fill = 16455)

qLoopCoupling2.bf2:deltaStrengthBuffM[.] (C)   qLoopCoupling2.bf13:deltaStrengthBuffM[.] (C)

Yellow at injection

File   Window   Markers   Analysis

Beam Decay

YellowDecay

Yel_Horiz   Yel_Vert

Time (Start Fill = 16455)

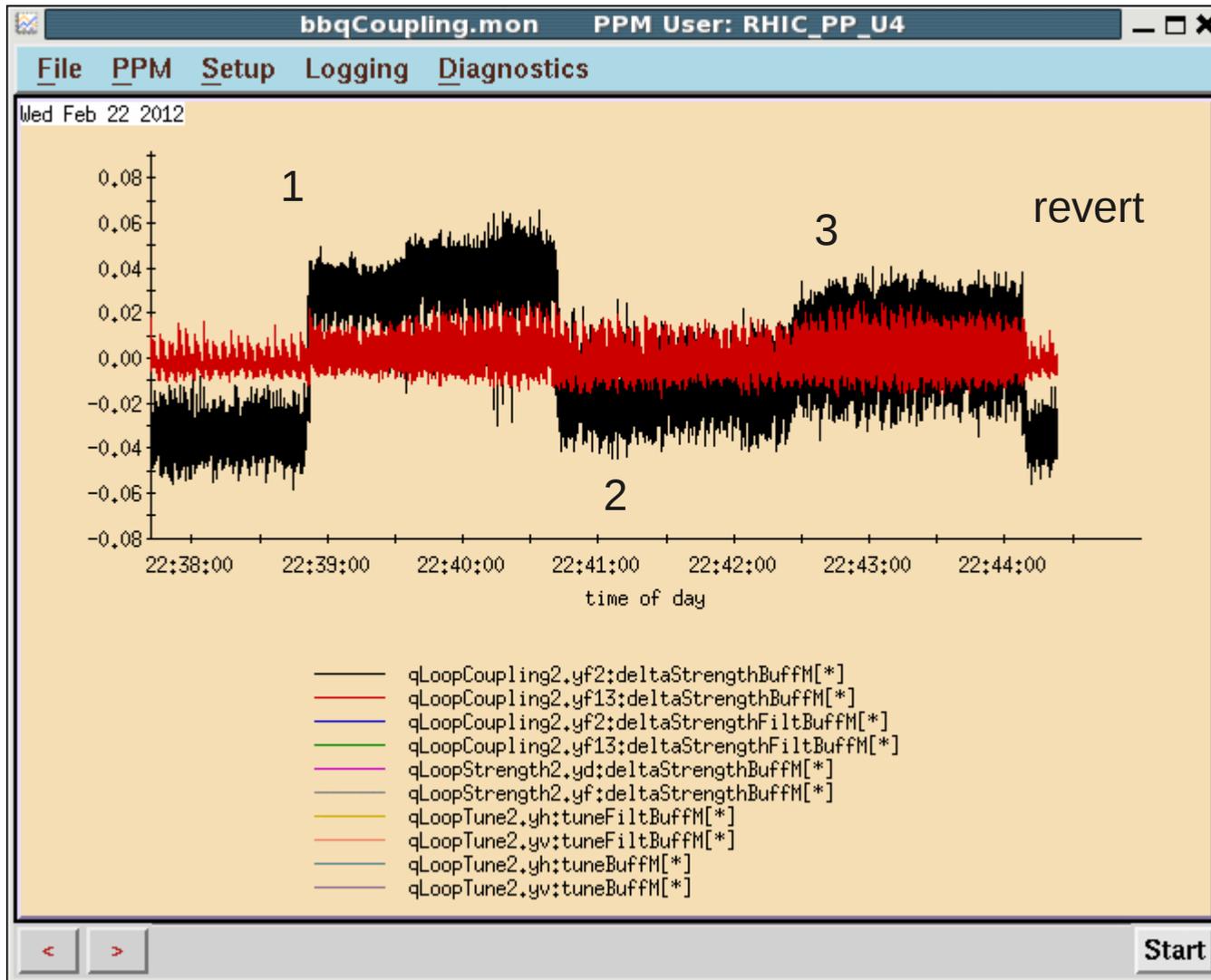qLoopCoupling2.yf2:deltaStrengthBuffM[,] (C)   qLoopCoupling2.yf13:deltaStrengthBuffM[,] (C)
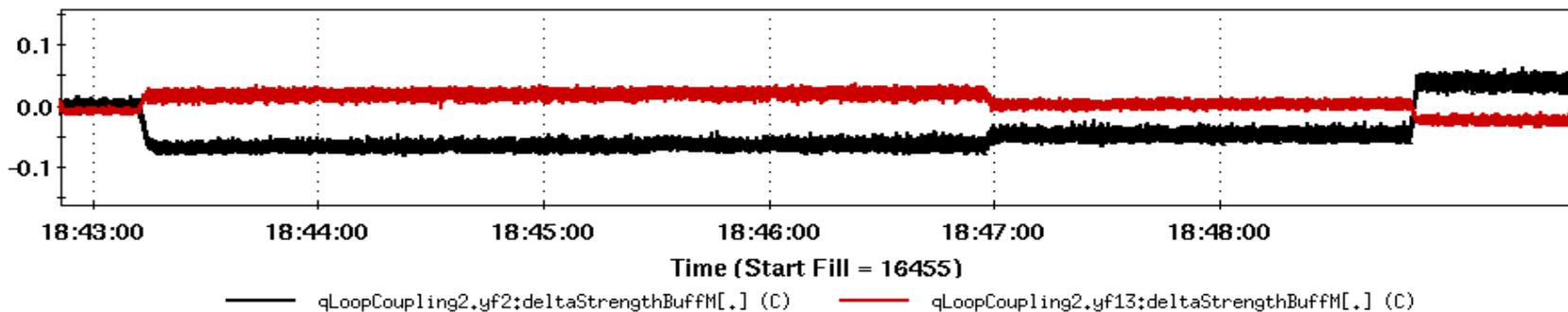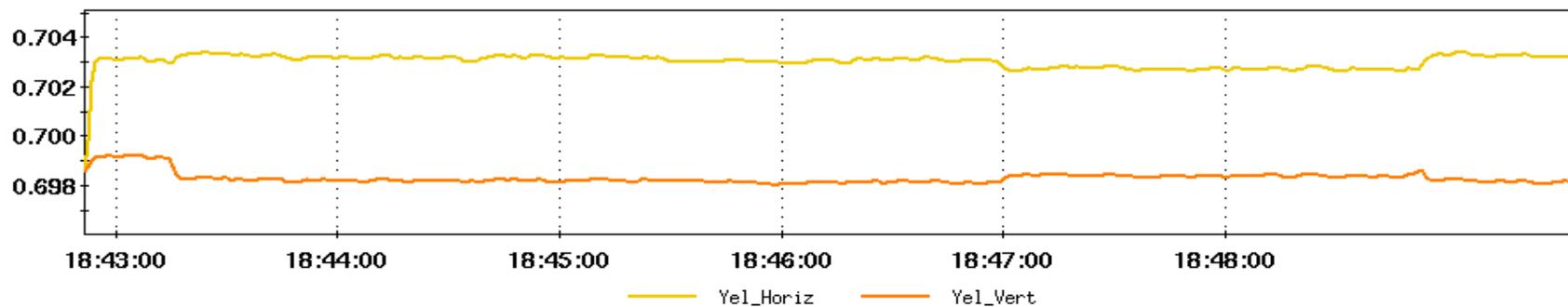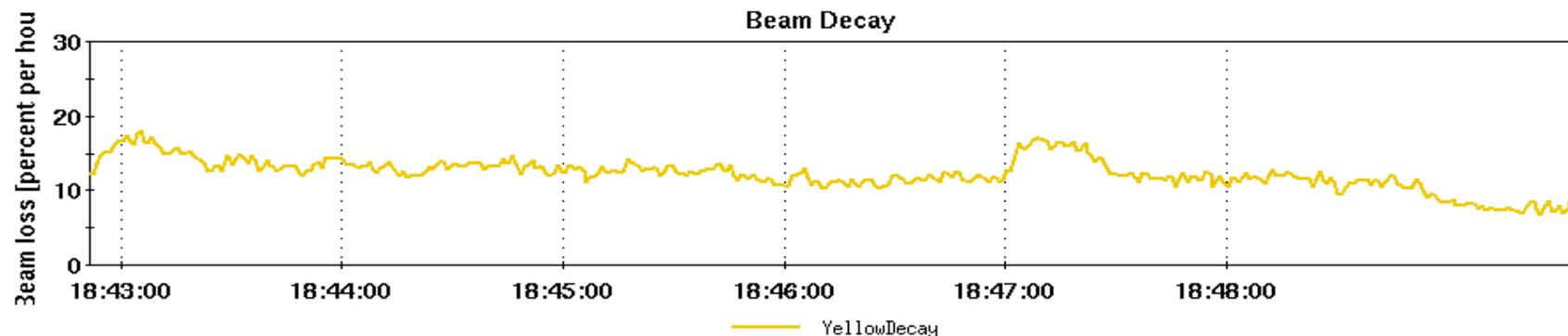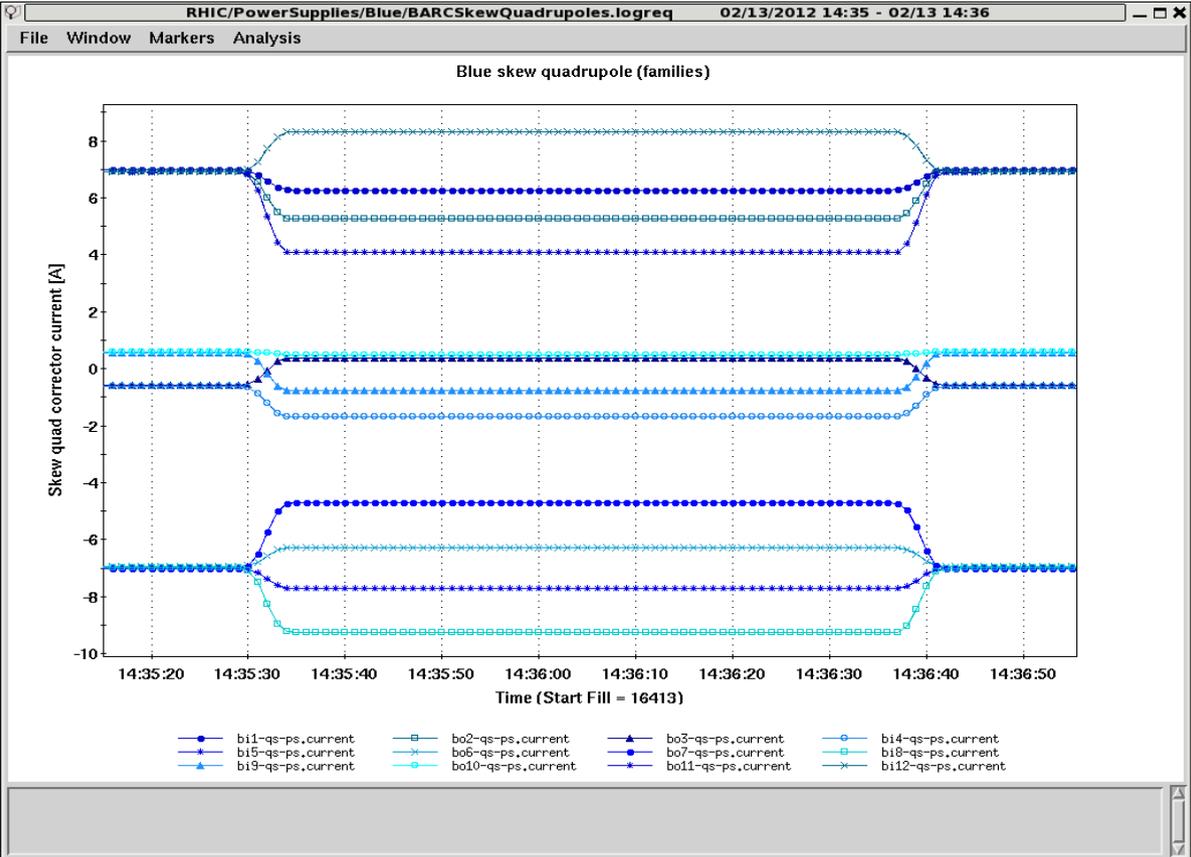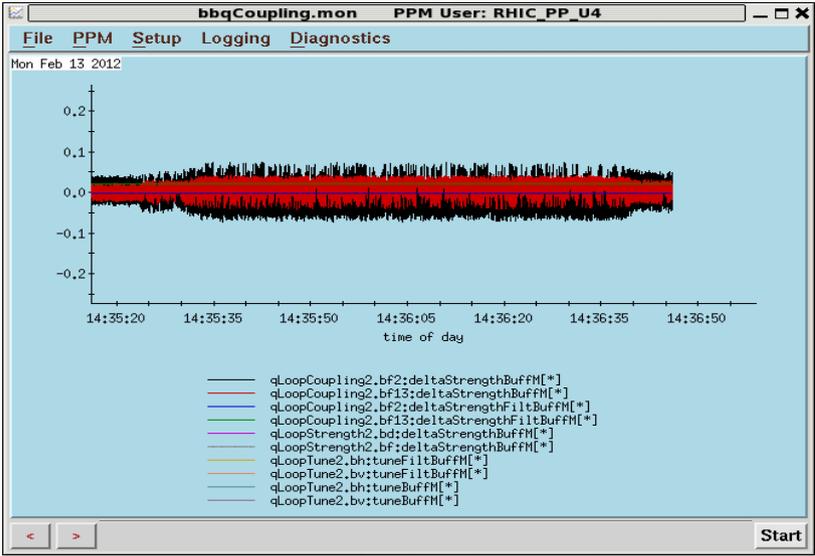
Yellow at store

3 iterations of decoupling and revert

Blue at store

Plan

1. Dispersion correction at store for both rings, need to do dispersion measurement constantly, check tunes, beam loss, collision rate...

2. If 1 is successful, do simultaneous correction

3. Request 2 hrs at store