

COSY 03 ÷ 08 February 2014

HE Electron Cooler Test

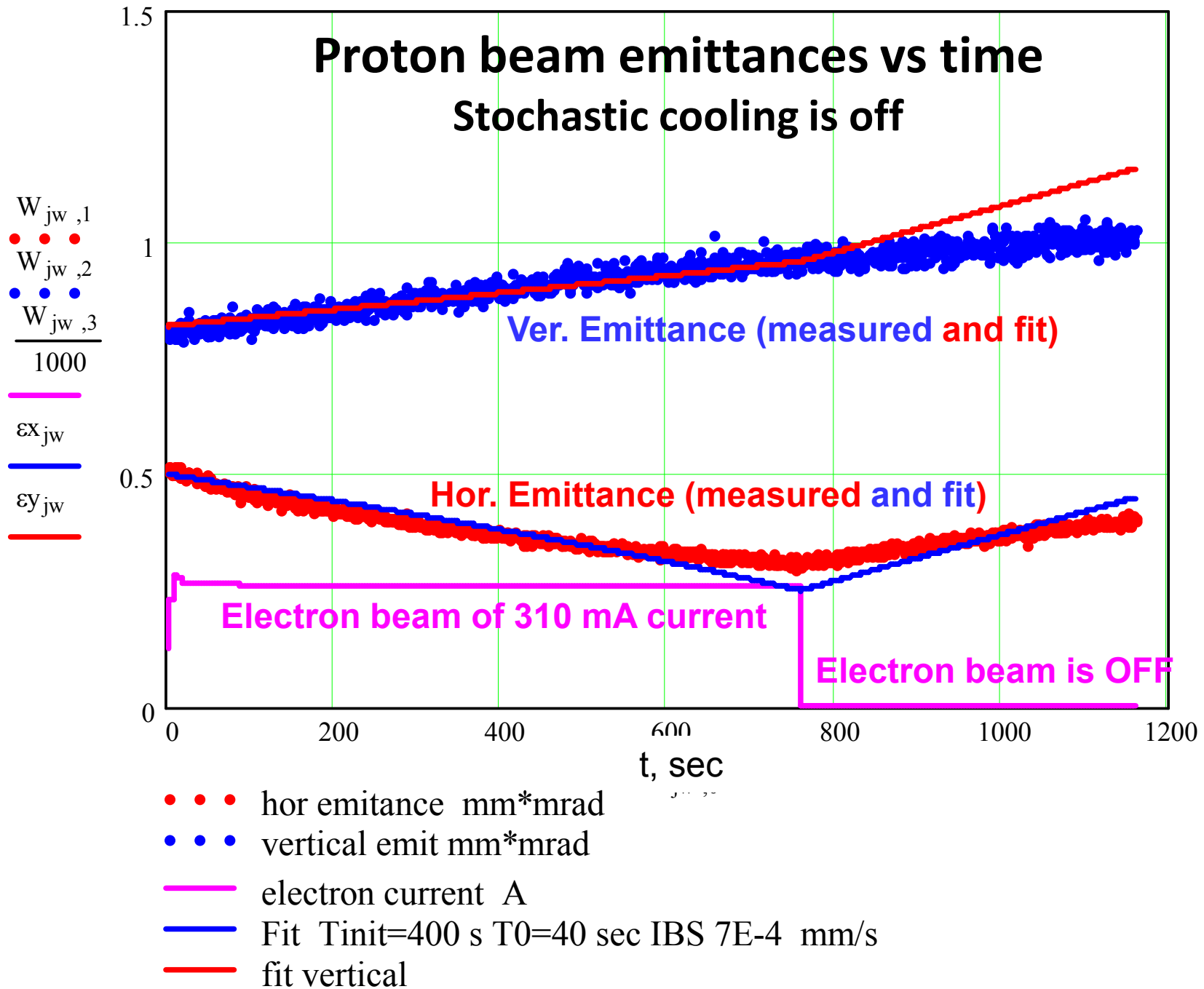
Electron energy	908 keV
Electron beam current	310 mA
Proton energy	1667 MeV

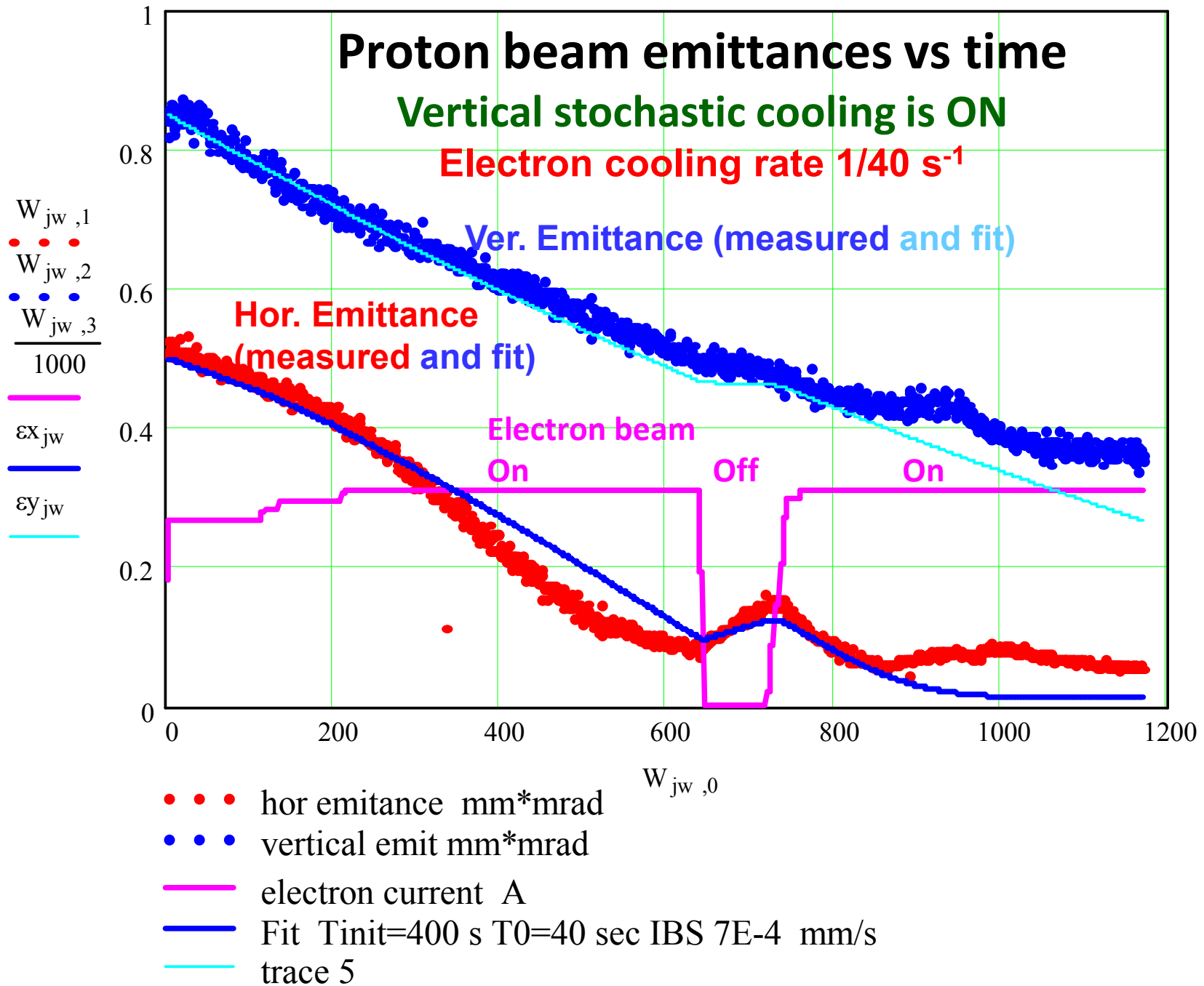
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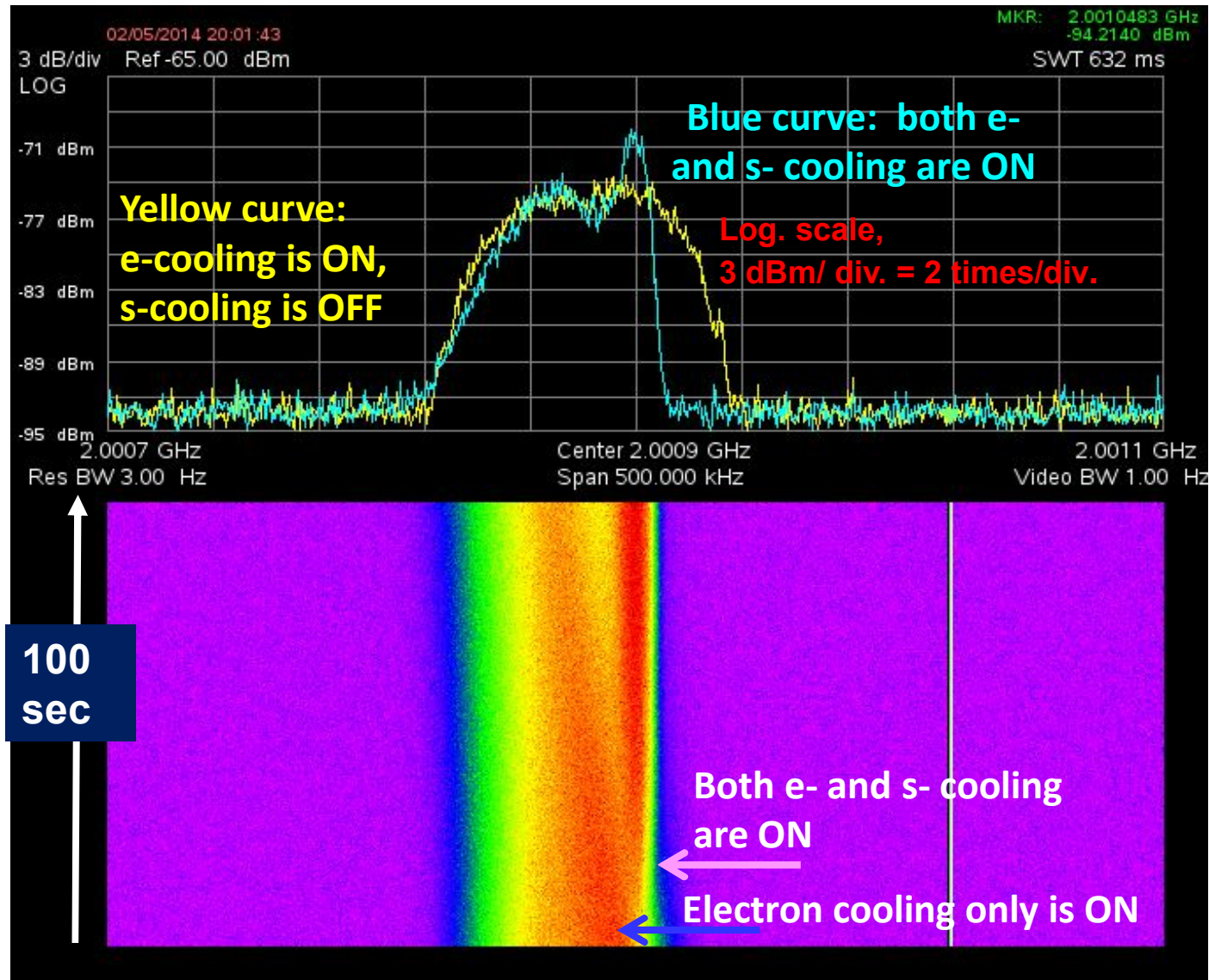
I.Meshkov NICA Group meeting 18 February 2014





5 February 2014

Longitudinal electron cooling combined with vertical stochastic cooling

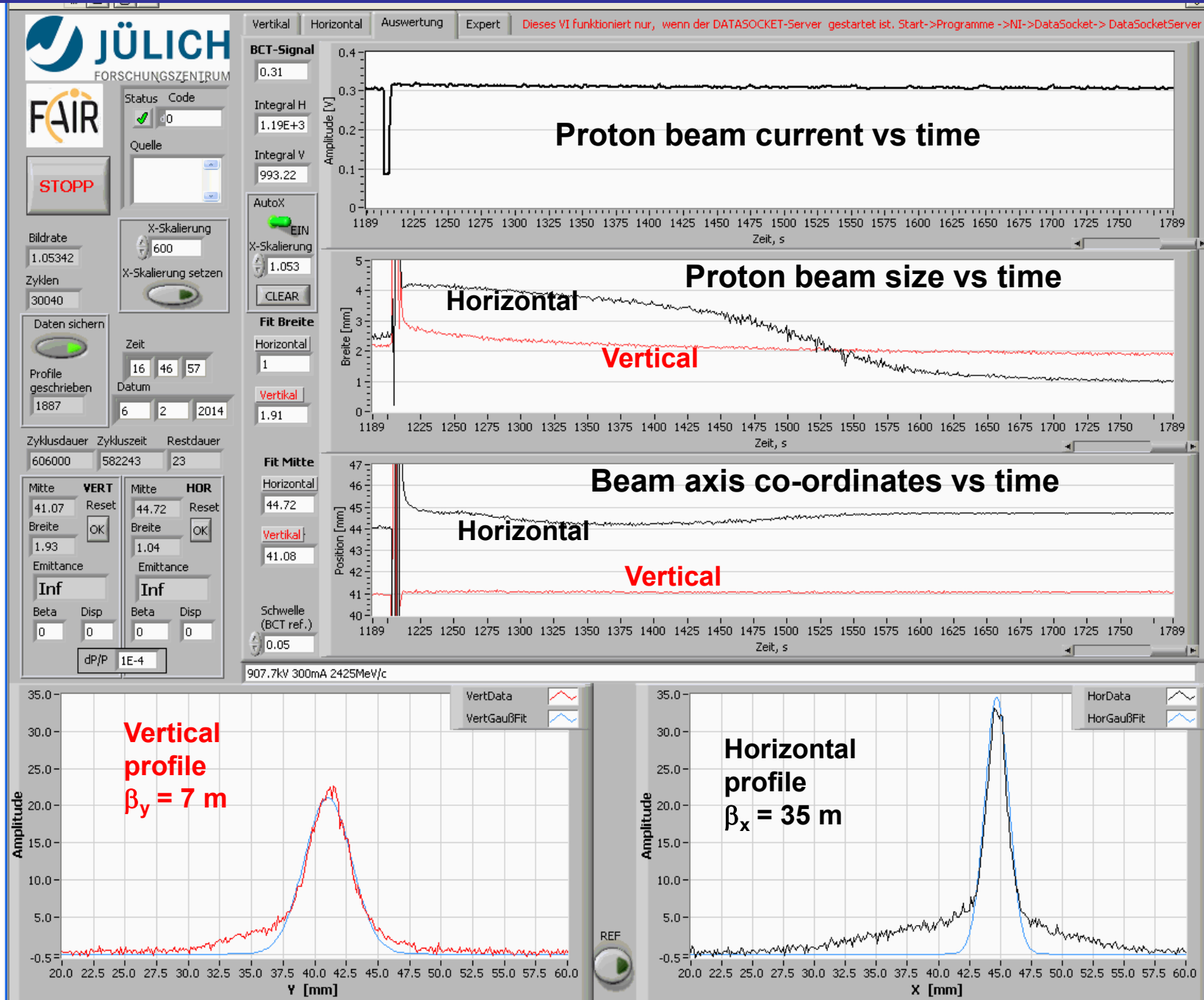


COSY 06.02.2014

Combined Action of Stochastic Cooling and Electron Cooling (Continuation)

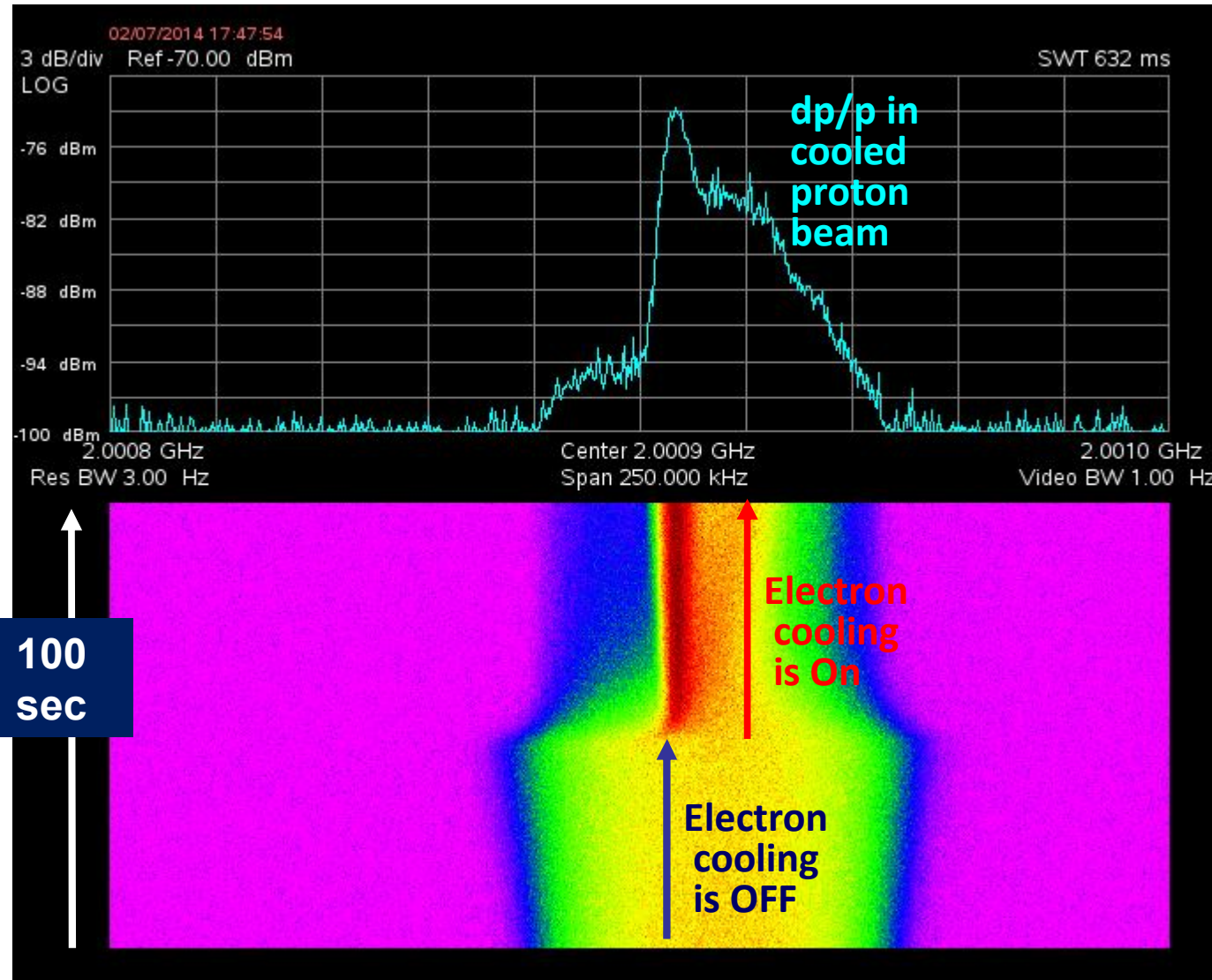
Electron energy	908 keV
Electron beam current	310 mA
Proton energy	1667 MeV

Terminal screen of COSY Beam Diagnostics



7 February 2014

Longitudinal electron cooling w.o. vertical stochastic cooling



8 February 2014

Momentum Spread dp/p In Proton Beam before (red) and after (blue) electron cooling

1st harmonics, protons, $E_i = 1.667 \text{ GeV} \approx E_{tr}$

$$\tau_{bunch} = 7 \text{ ns}, I_{bunch} = 2 \text{ m}$$

Equilibrium between RF field and SC field

