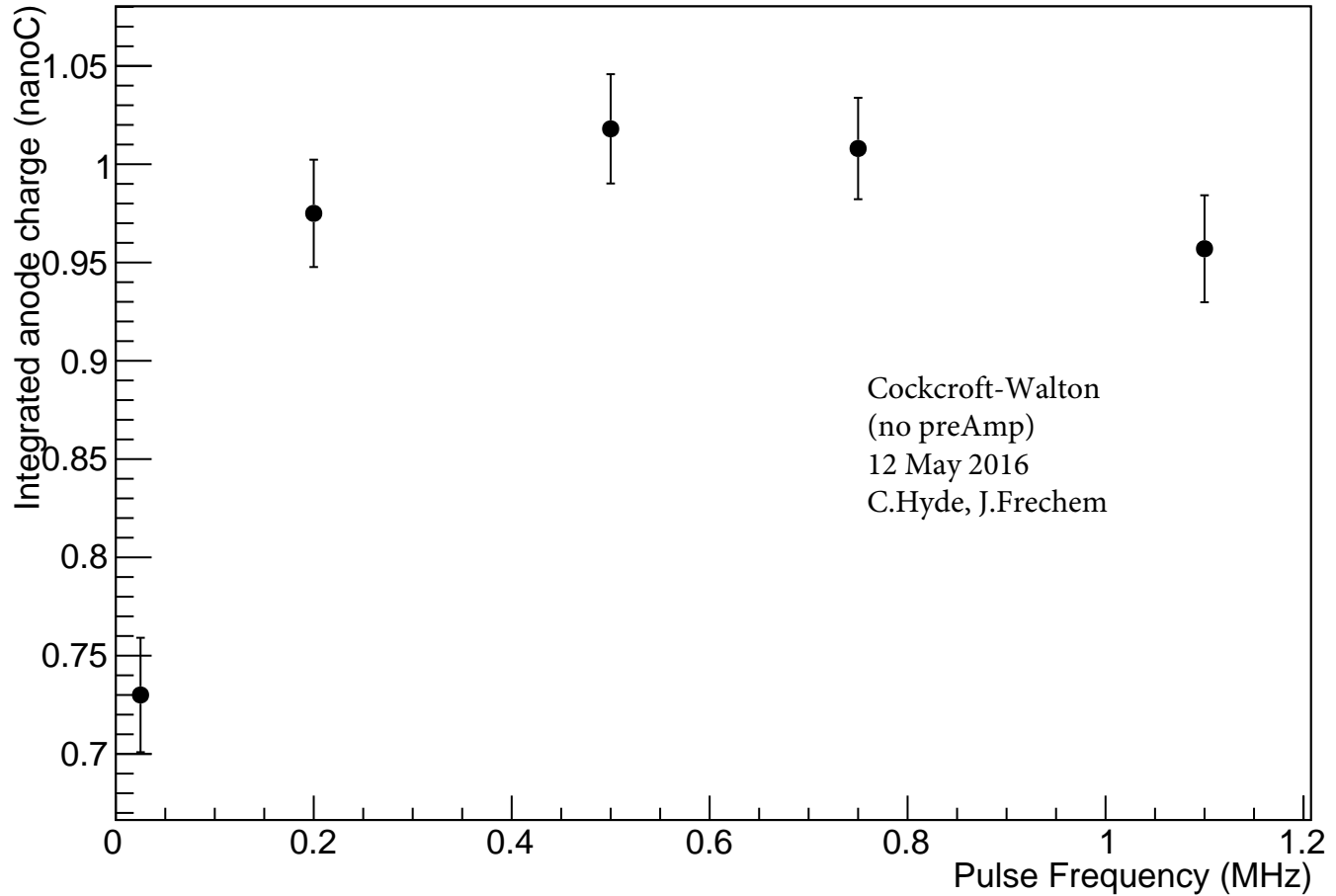
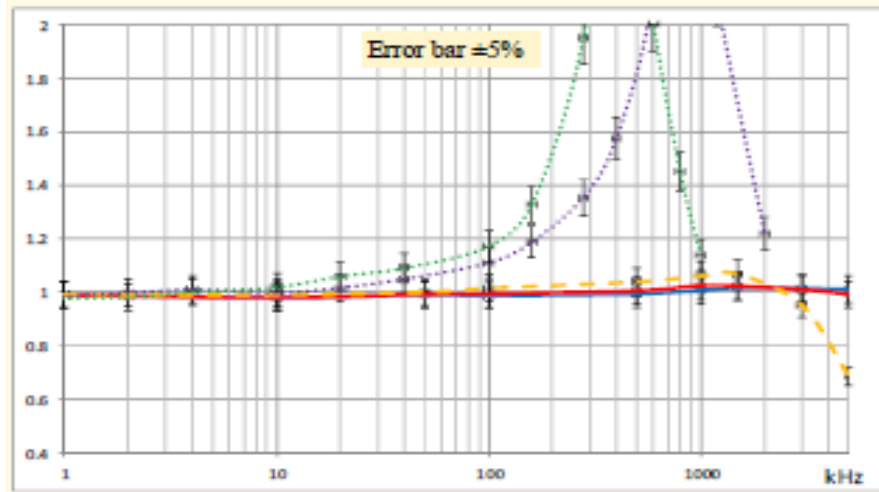


# Charge vs. Pulse Frequency CW-PMT 1000 V



# Active HV base tests

Active HV base test with LED light source similar to  $\text{PbWO}_4$  scintillator (by Vladimir Popov)



Normalized gain as a function of pulse repetition rate:

Active base initial amplitude:

---- 300 mV; --- 600 mV; - - - 1000 mV

Passive base initial amplitude:

..... 300 mV; ..... 600 mV

(Adopted from V. Popov)

Comparison of the original PrimEx base with modified active base design.

Parameter	PrimEx HV base	Active HV base
Maximum anode current	~6 $\mu\text{A}$ , gain variation $\pm 5\%$	~16 $\mu\text{A}$ , gain variation $\pm 1\%$
Maximum output pulse	unknown	-4 V, (-80 mA/50 Ohm)
Divider current	170 $\mu\text{A}$ at 1.5 kV	450 $\mu\text{A}$ at 1.1 kV
Maximum linear count rate	30 kHz $\pm 5\%$	1.2 MHz $\pm 1\%$

## Background test results

Radiation hardness of designed circuit was tested during Qweak experiment.

After receiving a > 150 krad dose no changes were observed.