

Daily summary monitor (RMSMon and FileFinder)

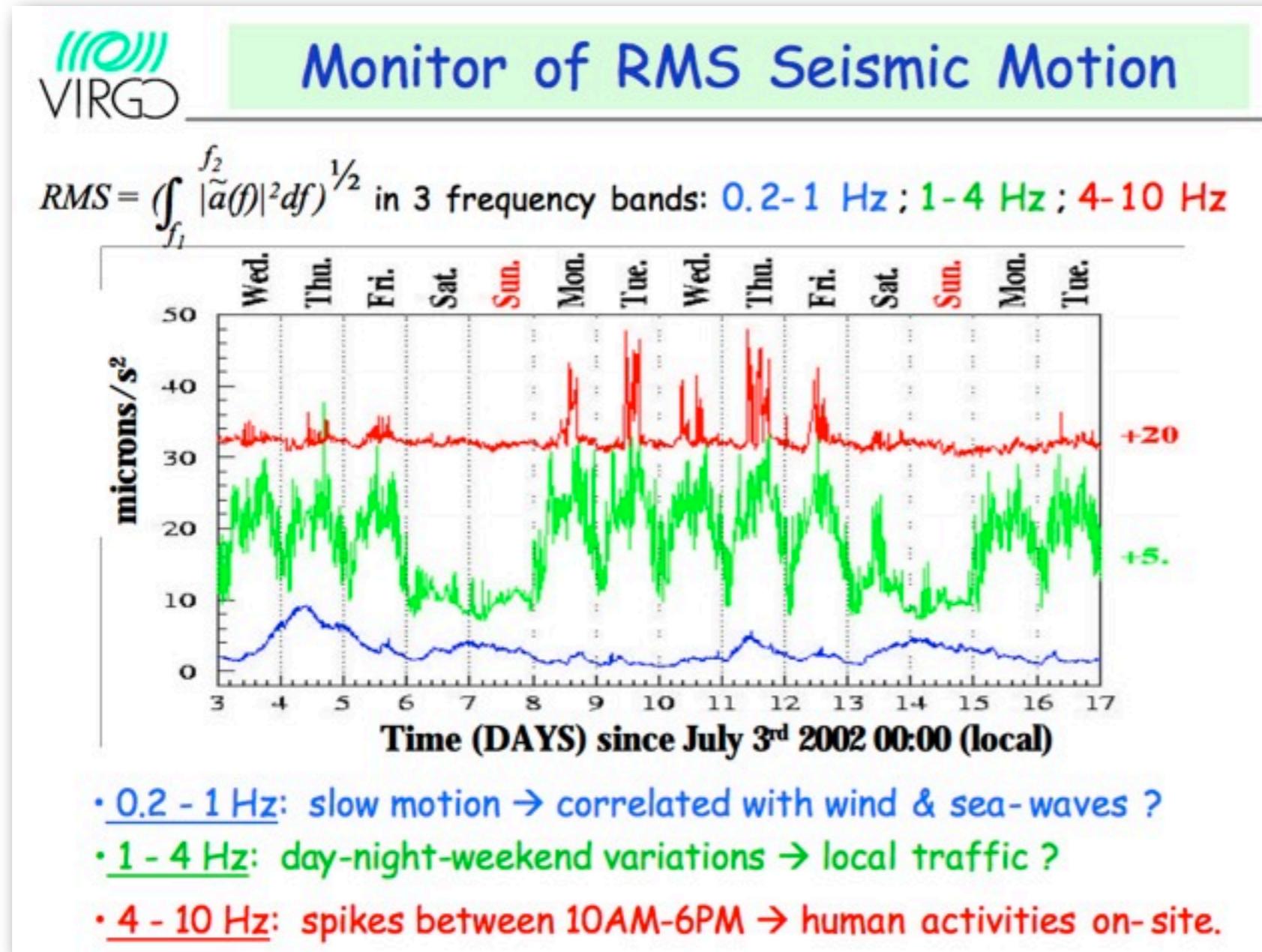
2016/2/2 Tuesday @DetChar meeting, Yuzurihara

- o Today's topic
 - What is RMSMon
 - Definition of RMSMon
 - Example of RMSMon
 - About FileFinder

What is RMSMon?

RMSMon : RMS monitor tool

RMSMonitor can find the time affected by non-stationary transient noise.



[[Classical and Quantum Gravity, Volume 21, Number 5](#)]

http://labcit.ligo.caltech.edu/LIGO_web/amaldi5/pdf/fiori.pdf

Definition of RMSMon

[[Classical and Quantum Gravity, Volume 21, Number 5](#)]

$$RMS = \left(\int_{f1}^{f2} |\tilde{s}(f)|^2 df \right)$$

1. calculate the spectrum $s(f)$ from the time series $s(t)$
2. sum up the squared spectrum between the frequency band

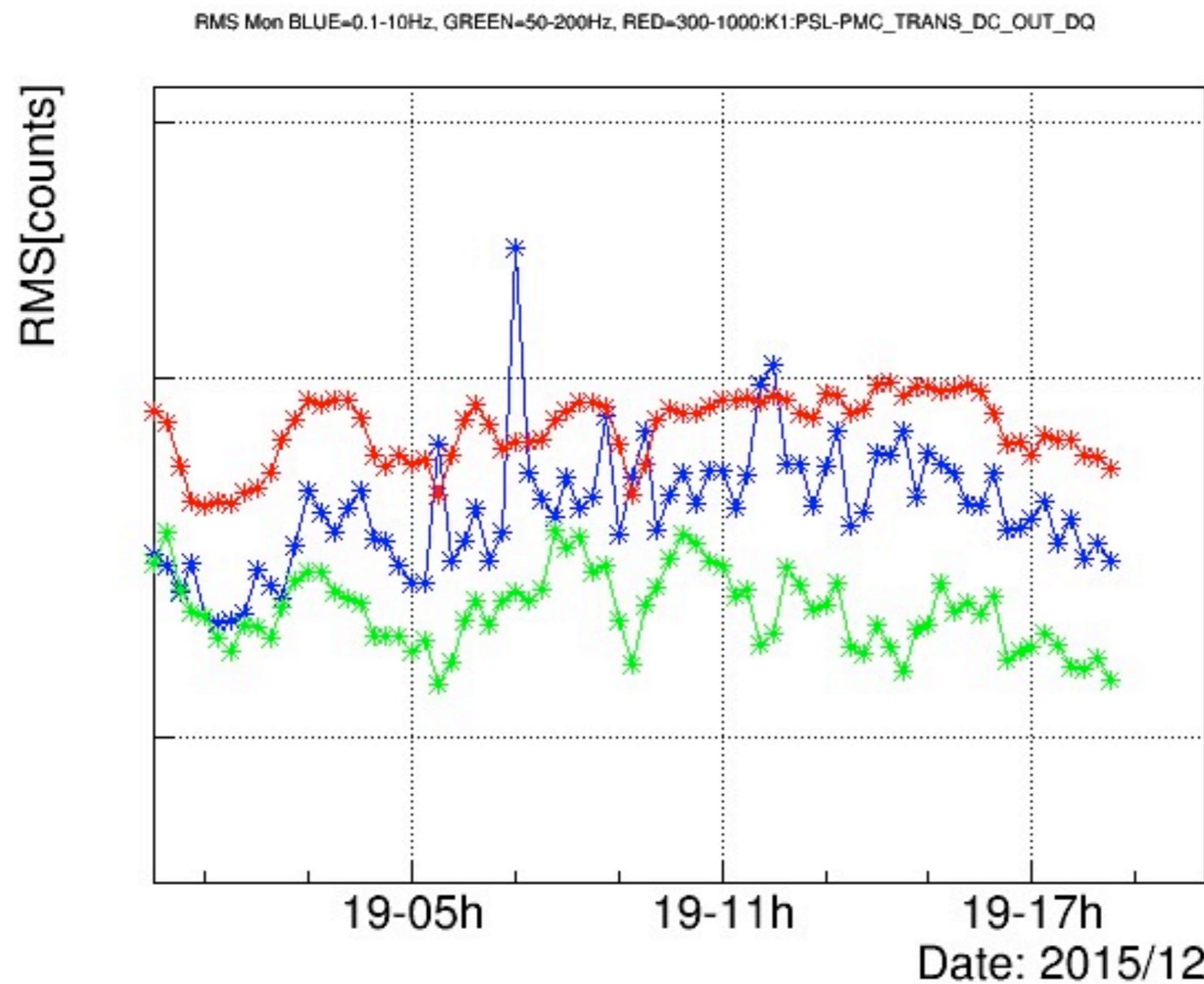
Now frequency bands are fixed as
0.1~10Hz, 50~200Hz and 300~1000Hz.

But in the web-based tool, you can more precisely analyze changing arbitrary frequency bands.

<http://seikai.hep.osaka-cu.ac.jp/~chino/cgi-bin/webToolFrame.cgi>

Example of the calculated RMSMon

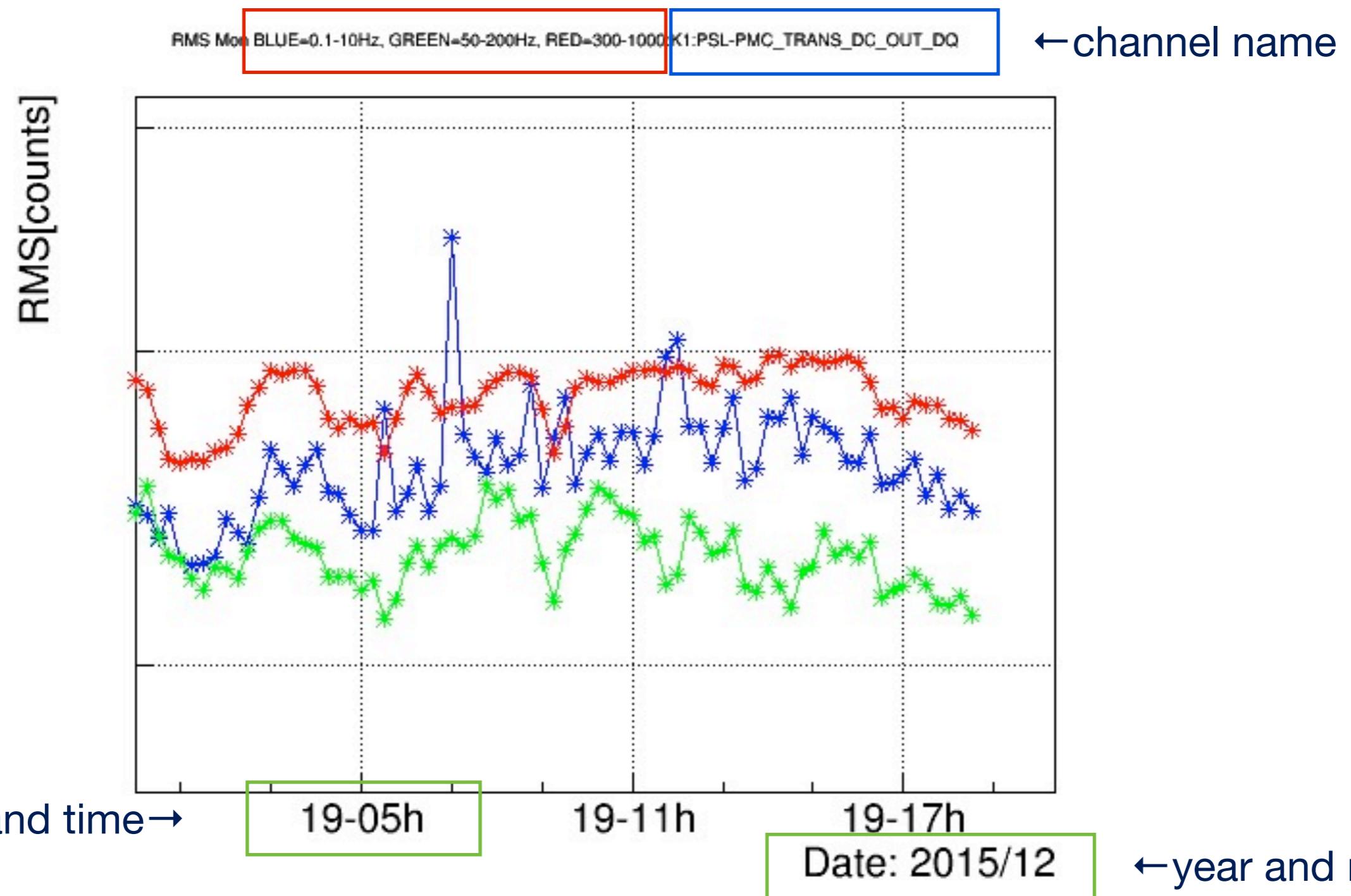
<http://seikai.hep.osaka-cu.ac.jp/~chino/cgi-bin/dailyFrame.cgi?year=2015&month=12&day=19&subSys=IOO>



Example of the calculated RMSMon

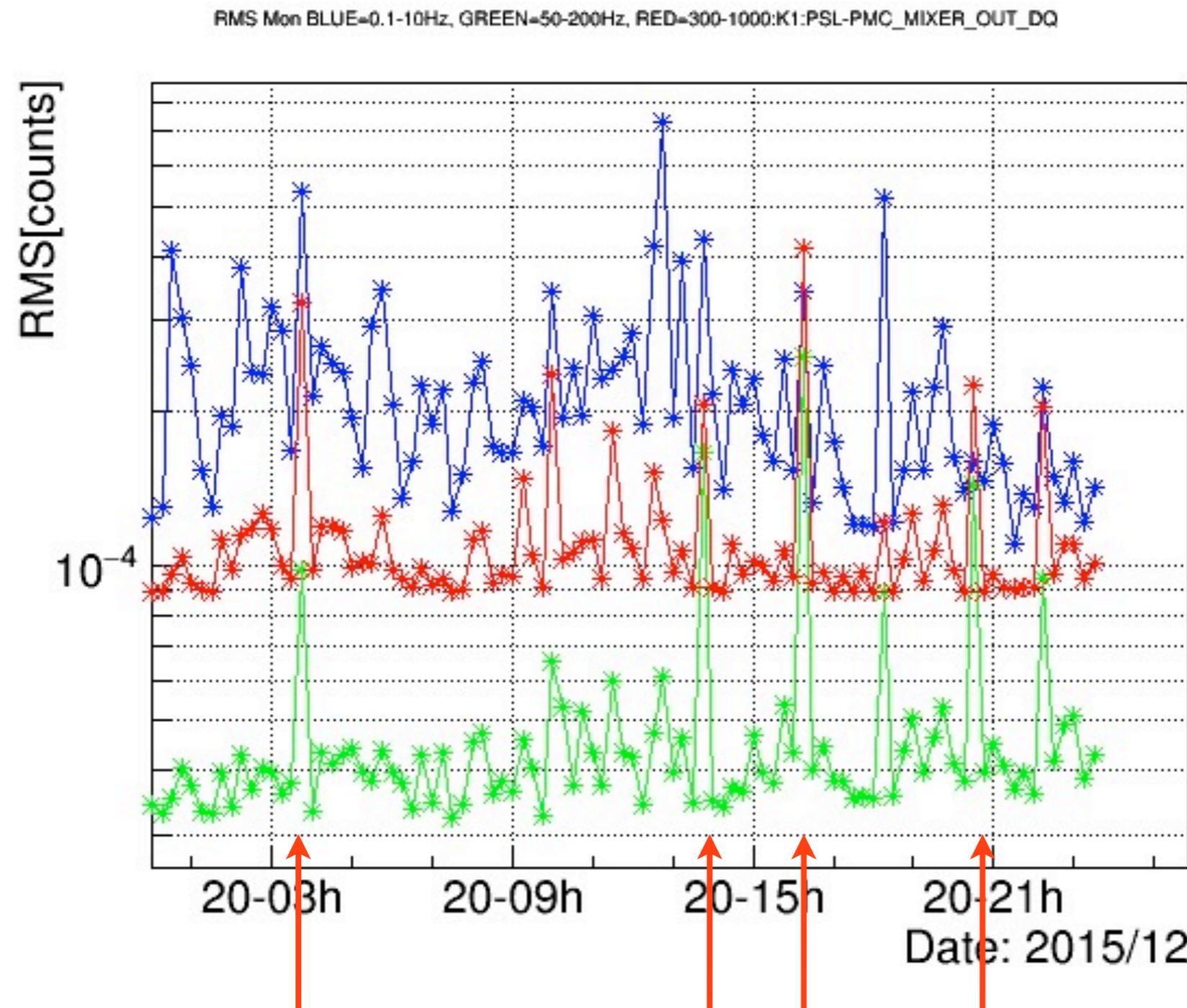
<http://seikai.hep.osaka-cu.ac.jp/~chino/cgi-bin/dailyFrame.cgi?year=2015&month=12&day=19&subSys=IOO>

frequency bands are chosen as 0.1~10Hz, 50~200Hz and 300~1000Hz.



Different example of the calculated RMSMon

http://seikai.hep.osaka-cu.ac.jp/~chino/2015/12/20/K1:PSL-PMC_MIXER_OUT_DQ-2015-12-20_RMSMon.png

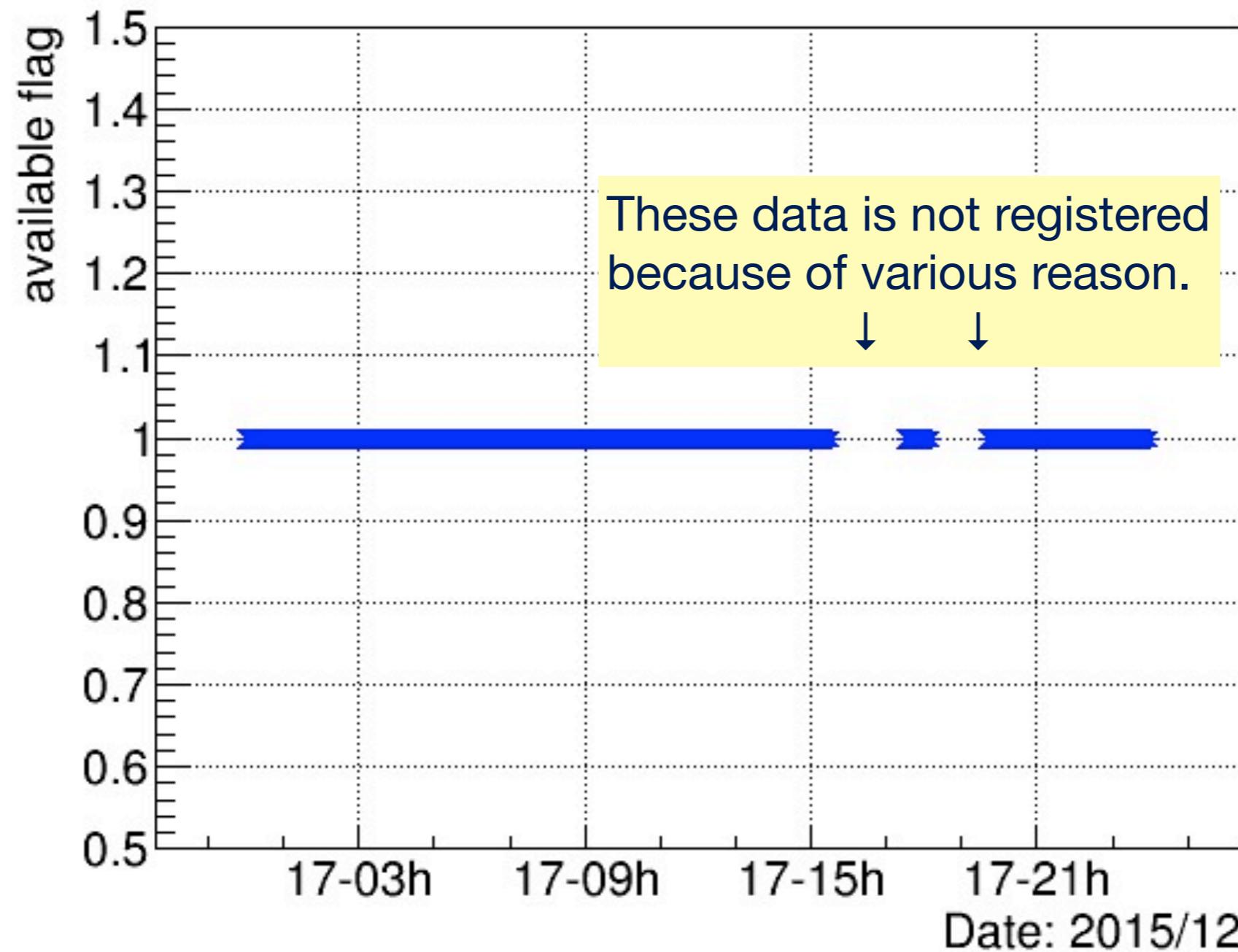


We see the signal affected by the transient glitch by eye.

FileFinder

The FileFinder monitor can find whether the frame data is registered in data base or not.

In the figure, the blue marks indicate the data is available.



FileFinder of another day

On 18, December, 2015, the figure indicates the all data are available.

