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SUBJECT: LIGO/Virgo S200213t: upper limits from AGILE/GRID observations  
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F. Longo (Univ. Trieste, and INFN Trieste), G. Piano, C. Casentini (INAF/IAPS), M. Tavani (INAF/IAPS, and Univ. Roma Tor Vergata), M. Cardillo, A. Ursi (INAF/IAPS), F. Lucarelli, C. Pittori, F. Verrecchia (SSDC, and INAF/OAR), A. Bulgarelli, V. Fioretti, N. Parmiggiani (INAF/OAS-Bologna), M. Pilia (INAF/OA-Cagliari), report on behalf of the AGILE Team:

In response to the LIGO-Virgo GW event S200213t at  $T_0 = 2020-02-13\ 04:10:40.328$  (UTC) a preliminary analysis of the AGILE exposure at  $T_0$  shows that the Gamma-Ray Imaging Detector (GRID) exposure covered the 32% of the 90% c.l. localization region (LR) (4% of 90% c.l. LR is occulted by Earth).

We performed an analysis of the GRID data in the energy range 50 MeV – 10 GeV on  $T_0$ , where good exposure of the S200213t 90% c.l. LR was available.

No candidate gamma-ray transient was detected.

The following preliminary GRID values of 3-sigma upper limit (UL) are obtained:

from  $8.7e-07$  to  $7.2e-06$  erg  $\text{cm}^{-2} \text{s}^{-1}$ , with exposure of about 32% of the LR over the time interval (  $T_0 - 2\text{s}$  ;  $T_0 + 2\text{s}$  );  
from  $3.3e-07$  to  $6.4e-06$  erg  $\text{cm}^{-2} \text{s}^{-1}$ , with exposure of about 38% of the LR over the time interval (  $T_0$  ;  $T_0 + 10\text{s}$  );  
from  $3e-08$  to  $1.5e-06$  erg  $\text{cm}^{-2} \text{s}^{-1}$ , with exposure of about 48% of the LR over the time interval (  $T_0$  ;  $T_0 + 100\text{s}$  );

These measurements were obtained with AGILE observing a large portion of the sky in spinning mode. Additional analysis of AGILE data is in progress.