

## ***Interactive comment on “InSAR observations of the 2009 Racha earthquake, the Republic Georgia” by E. Nikolaeva and T. R. Walter***

**Anonymous Referee #2**

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### General considerations

This manuscript deals with InSAR investigations to provide the spatial deformation pattern caused by the 2009 Racha earthquake (Republic of Georgia). The work is interesting for the experimental results obtained, all the more that no other earthquake observations had been carried out by InSAR before in the area studied. The manuscript revised by the authors (7 May 2016) is well written, the style is clear and most of the weak points or dark sentences included in the original version of the paper have now been clarified. Nevertheless, in my opinion other points need to be improved.

### Major points

1) As indicated by the authors in Section 2 (“Study area”), Georgia has expe-

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rienced some historical earthquakes. However, the manuscript does not report any information concerning the main seismic events occurred before 1991. In order to supply a clearer picture of the area seismic hazard, I suggest improving this aspect. In such a perspective, the authors can take advantage, for example, of the Catalogue of the Caucasus Earthquakes since 550 BC till 2000 AD (<http://zeus.wdcb.ru/wdcb/sep/caucasus/welcomen.html>, accessed 20 May 2016).

2) The investigation about the possible fault associated with the 2009 earthquake needs a more thorough analysis. As a matter of fact, in section 4.1. (“InSAR”) the authors refer to a “...seismogenic fault constrained earlier (Gamkrelidze and Shengelia 2007) .” It is not clear how this seismogenetic fault is linked to the Authors’ research findings. Moreover, it is basic to discuss in depth the relationship between the inferred 2009 seismogenetic fault represented in Figure 4 and the well-known tectonic settings/lineaments of the area.

### Minor points:

1) Figure 1). I recommend the authors to include the names of the major faults. Furthermore, the names of the main cities will also be added.

2) The paper of Gamkrelidze and Shengelia (2007) is lacking in the Reference section.

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