Comments to "Foreshocks and short-term hazard assessment to large earthquakes using complex networks: the case of the 2009 L'Aquila earthquake" by Daskalaki et al. submitted to NPG

A. De Santis

The paper is an interesting application of a statistical network analysis to the 2009 L'Aquila seismic sequence. My indication is for a major revision: I have some specific requests that once are met properly the paper might be published. They are indicated in the due order in the following.

Major point

As I understand, the network analysis does not take into account the different magnitudes of the foreshocks. This means that it could depend on the chosen minimum magnitude of the dataset (now Mc=1.3). I think this is the weakest point of this kind of analysis. Results from some other different choices should be shown, in order to prove that the choice is not critical.

Secondary points

- I suppose the selection of the seismic events is limited by the depth so considering only shallow earthquakes, but this is not said. Could you please specify it? And, how much critical is the choice (e.g. showing results for two other depth choices)?

- I believe that some passages of the manuscript would be strengthen by adding some proper references that are now missing. I can suggest some (but the Authors can add alternatives), as the following:
Pag.2 line 8. After "(e.g. Bufe and Varnes, 1993)" I would add the sentence: "A recent revision of the method has been proposed in order to cope with some previous limitations (De Santis et al., 2015)."
Pag.3 line 14. I would add at the end of the present sentence the following: "However, around a year before the mainshock possible effects due to fluid migration was found from magnetic data analyses (Cianchini et al., 2012)."

Pag. 7 line 23. After "its occurrence" I would insert the following: "(look also De Santis et al. 2015)"
Pag.8 line 1. Please, after "2010" insert: "; De Santis et al., 2011".

Fig.2 caption, pag. 16 line 13. When you write "2σ confidence intervals" do you really mean "$\pm 2\sigma$ confidence intervals" or "$\pm\sigma$ confidence intervals"? Please clarify.

Fig. 5 pag. 19 and Fig. 6 pag. 20. Although you already provide the spatial distribution of the earthquakes in Fig. 1, I believe that these Figures would be clearer if associated with the progressive spatial distribution of earthquakes in each frame, even provided in a separate Figure (if the points decrease clarity in reading).

Minor points
- Pag.2 line 2. I would insert "generally" between "foreshocks" and "increases".
-Pag. 3 line25. Please correct "2011" with "2010".
- Pag 4 line19. Please correct "0.1o" with "0.1^{o}"
- Page 5 line14. Please correct "km3" with "km^{3}"
- Watts and Strogatz, 1998 (indicated in the Appendix at pag. 8, line 28-29) is missing in the list of references.
- Pag. 10 lines 5-9. Amoruso et al. 2010 and Albert and Barabasi 2002 should be put in reverse order in the reference list.

References (not already present in the manuscript)

Cianchini G., A. De Santis, D. R. Barraclough, L. X. Wu, and K. Qin, 2012. Magnetic transfer function entropy and the 2009 Mw = 6.3 L'Aquila earthquake (Central Italy), *Nonlin. Processes Geophys*., 19, pp. 401-409, doi:10.5194/npg-19-401-2012.

De Santis A., Cianchini G., Di Giovambattista, 2015. Accelerating moment release revisited: examples of application to Italian seismic sequences, *Tectonophysics*, 639, 82-98, 10.1016/j.tecto.2014.11.015.