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## Localization of mobile terminal in emergency situations

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On the emergency calls, the emergency localization systems find possible location for the mobile phone user. Existing emergency localization systems are only usable when there is more than one serving base stations. This kind of system uses triangulation technique with those serving sites. When the coverage is limited with one station, existing emergency system gives a huge area which is not enough to determine the location. The rescue operations of single English two Danish tourists got lost on the trekking road Lycian Way in Turkey on 16<sup>th</sup> Jan and the mountaineers got stuck in the Bozdag Mountains in Turkey on 8<sup>th</sup> Feb. Even though existing system gave an area of 26 km<sup>2</sup> to make the search on the trekking road with our developed solution it is reduced to 9 km<sup>2</sup>. The calculations were done with our propagation model and environmental data (e.g. landscape, antenna type, population distributed clutter maps, propagation models, path loss, etc). Moreover, mobile operators have to keep the user information related to signaling between mobile phone and base stations. In this paper, we combined those environmental and user data to reduce the area to be searched, so to find the victim easier. The critical point at this process is using handover information between different technologies on the roaming subscribers and the coverage area difference of the different frequency bands. To be able to solve the issues easier for the similar cases in the future, it has been decided to automatize the system.

### Biography

Ezgi Dizdaroglu has completed her BSc as Telecommunication Engineer from Istanbul Technical University and after graduating she has started working on a research project with Master's education at the same department. In 2011, she started working on the mobile business as Radio Optimization Engineer in Turkey and Georgia for 2 years. Later, she started working as RAN Planning Senior Specialist at Vodafone Turkey Headquarters.

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