



Kinematic modeling of idealized system for early registration and warning in case of an earthquake

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Abstract: Early warning systems (EWS) are the product of the last and the most improved achievements of the recent Earth Science engineering applications. All know Seismic EWS are based on the fundamental property of the seismic wave propagation: P-waves travel approximately 1.71 times faster than S-waves (which have significantly greater destructive potential). For the exploration of such systems seismic sources are selected and the wave propagation is modeled based on kinematic principles. The sphere of influence of each seismic source is then separated into 3 zones with decreasing destructive potential – red, orange and green. Finally, the seismic stations are optimized according to the seismic sources locations and common use (in some cases) of the same equipment.