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Knowledge base about earthquakes as a tool to minimize strong events consequences

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The paper describes the structure and content of the knowledge base on physical and socio-economical consequences of damaging earthquakes, which may be used for calibration of near real-time loss assessment systems based on simulation models for shaking intensity, damage to buildings and casualties estimates. Such calibration allows to compensate some factors which influence on reliability of expected damage and loss assessment in "emergency" mode. The knowledge base contains the description of past earthquakes' consequences for the area under study. It also includes the current distribution of built environment and population at the time of event occurrence. Computer simulation of the recorded in knowledge base events allow to determine the sets of regional calibration coefficients, including rating of seismological surveys, peculiarities of shaking intensity attenuation and changes in building stock and population distribution, in order to provide minimum error of damaging earthquakes loss estimations in "emergency" mode.

References

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