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RECONNAISSANCE OF 2017 EARTHQUAKE IN MEXICO

Summary:

The Puebla earthquake in Mexico on September 19th (local time), 2017, caused substantial damage in buildings in the capital of Mexico City. Because of the bad experience during the more devastating Michoacan earthquake in 1985, comparison of damage between these two earthquake attracted concern. The author and his colleagues visited the affected sites in October, 2017, and conducted reconnaissance for 4 days. The city area consists of three subsoil areas that are called Zone I in the hilly area, Zone III in the former lake area and Zone II that is transient between I and III. Buildilng damage was repeated in 2017 mostly in Zone II and a few in Zone III. The recorded earthquake motion suggests that the peak ground acceleration was greater in Zone III with soft and thicker lake deposit, while shaking frequency was higher in Zone II. The combination of these two factors affected the damage extent. It seems that the seismic retrofitting after 1985 was not sufficient in damaged buildings. Another issue is the aggravation of ground fissures and subsidence that had been going on due to ground water pumping. In contrast, slope failure was not many in number.

Key words:

earthquake, damage, geotechnical, soft soil, response, Mexico, 2017 Puebla earthquake

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