Analisis Perilaku Struktur Gedung Bertingkat Dengan Analisis Dinamik Respon Spektrum Terhadap Beban Gempa

Title	Analisis Perilaku Struktur Gedung Bertingkat Dengan Analisis Dinamik Respon Spektrum Terhadap Beban Gempa
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Abstract	The effect of earthquake load on building structures can be analyzed by equivalent static and dynamic methods analysis (spectrum response and time history). Earthquake load in buildings causes to collapse in buildings. One of the region in Indonesia that have highrisk on the earthquake is Bekasi. This research was conducted at the Galaxy Park Metro Apartment, Bekasi. This study aims to conduct building modeling, analyze the stiffness, vibration period, and the basic shear force of the structure, determine the pattern of sway (mode) and gather mass. The structural performance analysis of the Metro Galaxy Park Apartments based on SNI 1726 2012, SNI 1727 2013, SNI 2847 2013, and PPURG 1987. The results of this research show that the value of the vibration period of Metro Galaxy Park Apartments is 4.281 seconds. The amount of mass participation in the X and Y directions that exceeds 90% in the 21st and 24th modes respectively. The size of the static base shear (Vstatic) obtained is 23357.8 kN. While the dynamic base shear force (Vdynamic) for the earthquake direction X and the direction of the earthquake Y are obtained at 9788,041 kN and 10777.75 kN, respectively. Design scale factor for dynamic base shear force (V dynamic) of the earthquake in X and Y earthquake direction are 2.03 and 1.843, respectively. The magnitude of the dynamic base (Vdynamic) shear force for the X earthquake direction and Y earthquake direction are 19859,93 kN dan 19863,40 kN., respectively. Modeling of Metro Galaxy Park Apartments has been successfully done and the pattern of shaking (mode) of buildings has been obtained.Keywords: dynamic analysis, earthquake, mode shape, response spectrum
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