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Abstract

A CRITIC POINT OF VIEW OF THE SEISMIC DESIGN CONCEPT

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In certain situations, some design codes provide increases of the computed seismic forces, in order to strengthen the serviceability safety under seismic loading, without any scientific reason.

There cannot be neglected the restrictions stated in the structural design codes that increase the structural efforts, limit the reinforcement ratios as a consequence of the ductility restrictions, limit the displacements, introduce a large amount of structural provisions in one way and reserves covering the designer's "conception" on the other way.

It becomes more intuitive to perform the seismic computation in the elastic domain, in such way the obtained efforts and displacements become a reference limit, easily interpreted by the structural engineer. In this way one may use differentiated coefficients of reduction for each effort type, element, member end, joint, anchorage, assembly, etc. This reduction can be carried out by multiplication by a subunit coefficient (of ψ nature), or by division by a coefficient greater than one (of ductility coefficient nature). Such a computation will underline the real system behavior and pays attention to the designer about the vulnerable areas. We appreciate this proposal to be necessary when the new aseismic design codes will be written.

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