

METODOLOGÍA PARA LA ESTIMACIÓN DE DAÑO EN EDIFICACIONES USANDO IMÁGENES AÉREAS DE BAJA ALTURA

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RESUMEN

Se presenta una propuesta de investigación a desarrollar en un lapso de dos años en el Doctorado en Ingeniería con Énfasis en Mecánica de Sólidos, el cual versará sobre la Evaluación Rápida de Daños (RDA) de edificaciones afectadas principalmente por terremotos. Se presenta una revisión sobre esta metodología y otras basadas en imágenes aéreas y satelitales que piensan utilizarse en la investigación. Se presentan ventajas y dificultades de la RDA que son la base del problema a enfrentar, principalmente lo relacionado a la dificultad de lograr confianza en los resultados sobre edificaciones que no tienen clara evidencia de capacidad o insuficiencia estructural para resistir réplicas y el gran número de personas que se deben vincular al trabajo de evaluación. El objetivo general es lograr una formulación y validación de una metodología para la RDA por desplazamientos en edificaciones usando imágenes aéreas de baja altura. Los objetivos específicos son desarrollo de modelación simplificada de edificios, formulación metodológica, validación y una implementación basada en un sistema de información geográfica. Finalmente se presentan algunos resultados preliminares.

Palabras clave: Evaluación Rápida de Daños; terremotos; drones.

ABSTRACT

This paper is a research proposal for two years doctorate program in Engineering emphasized in Solid Mechanics. It research focus in Rapid Damage Assessment (RDA) by earthquakes in buildings. It presents a review of the methodology of RDA and its links with other similar methodologies based on aerial and satellite imagery. RDA methodology evidences advantages and disadvantages to reach its objectives. Its main difficulties is lack of trust in results of buildings without obvious loss of structural resistances facing aftershocks, and the need for large number of evaluators. The objective is to formulate and validate a methodology for displacement of buildings using low-height aerial imagery for RDA. Simplified modeling of buildings, methodology formulation, validation and implementation with a GIS are the specific objectives. Some preliminary results presented at the end.

Keywords: Rapid Damage Assessment, Earthquakes, UAS.

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