

Task 2.3.2: Vulnerabilità delle tipologie in muratura. Un approccio per la valutazione su larga scala della vulnerabilità sismica degli edifici in muratura non rinforzata in aggregato

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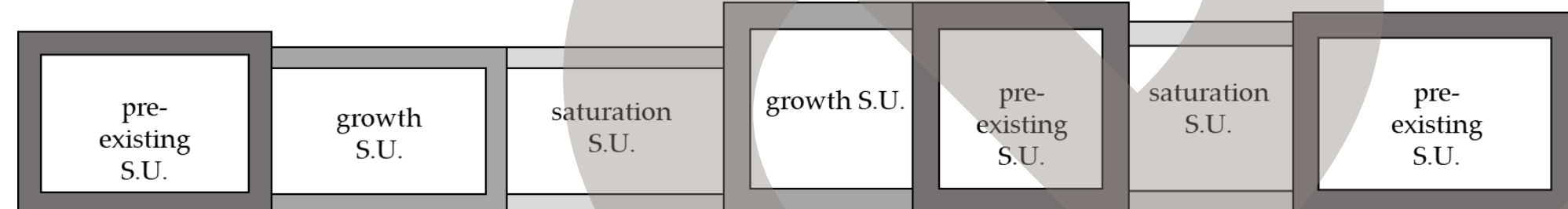
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1 INTRODUZIONE

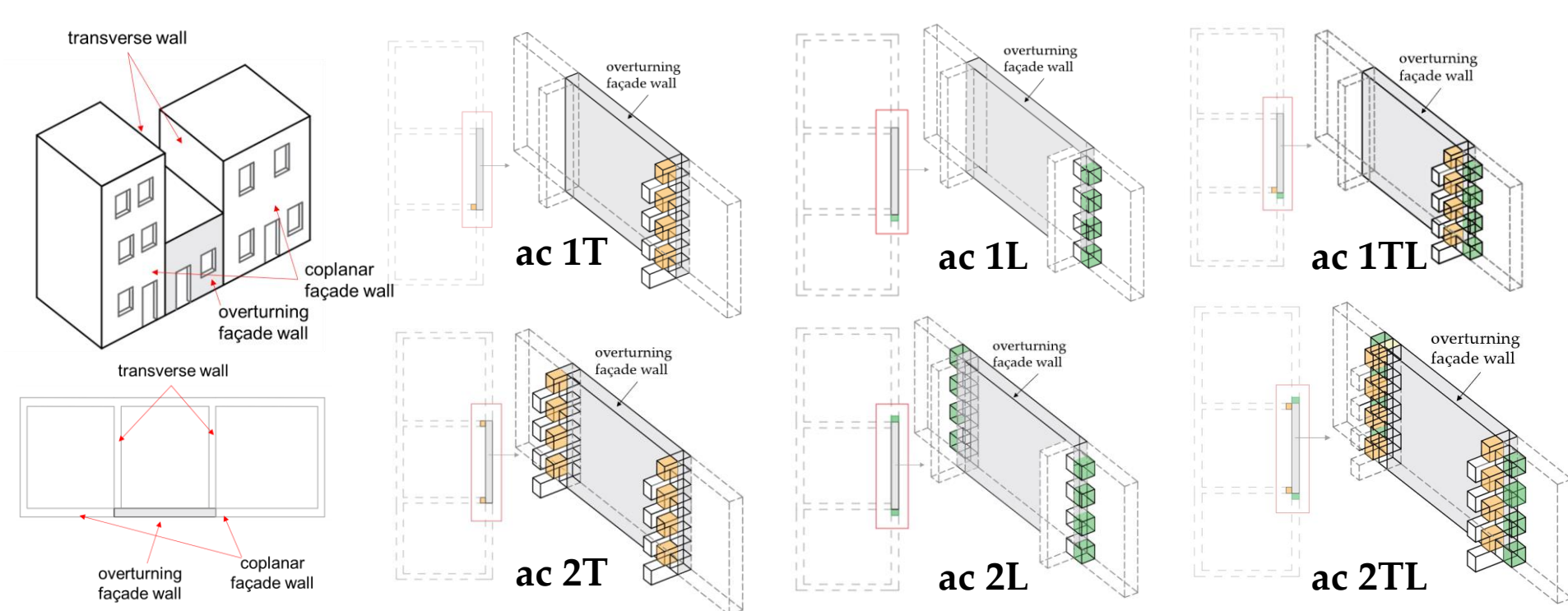


“EFFETTO AGGREGATO”



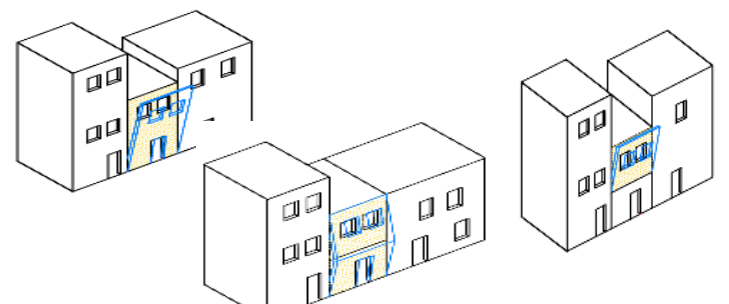
2 OBIETTIVI

Curve di fragilità per meccanismi di ribaltamento fuori piano di pareti di facciata degli edifici in configurazione aggregata.



3 APPROCCIO PROPOSTO

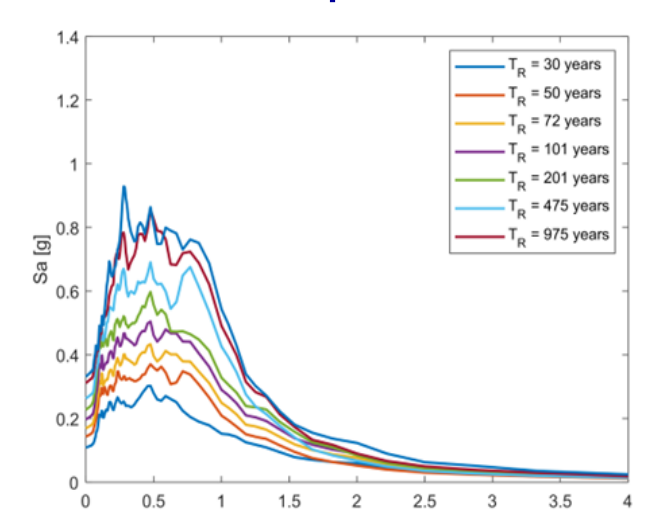
STEP 1.a: meccanismi fuori piano più probabili



STEP 1.b: categorie di edifici

Categorie di edifici	Meccanismo fuori piano più probabile	Numero di piani
1	1	1
2	2	2

STEP 4: input sismico



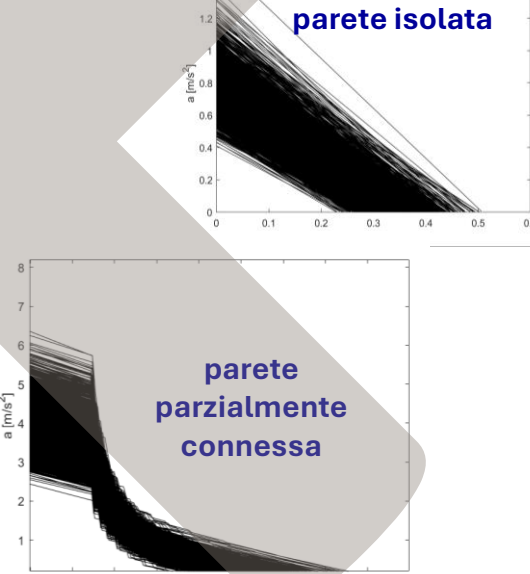
STEP 2: popolazioni virtuali di edifici



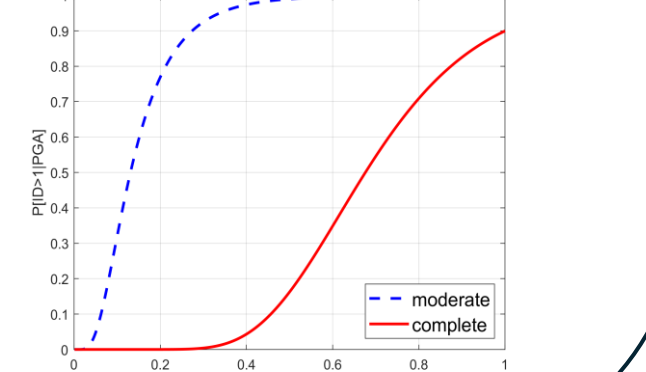
STEP 5: indici di danno ID

STATO DI DANNOSI	
1	Moderato
2	Completo

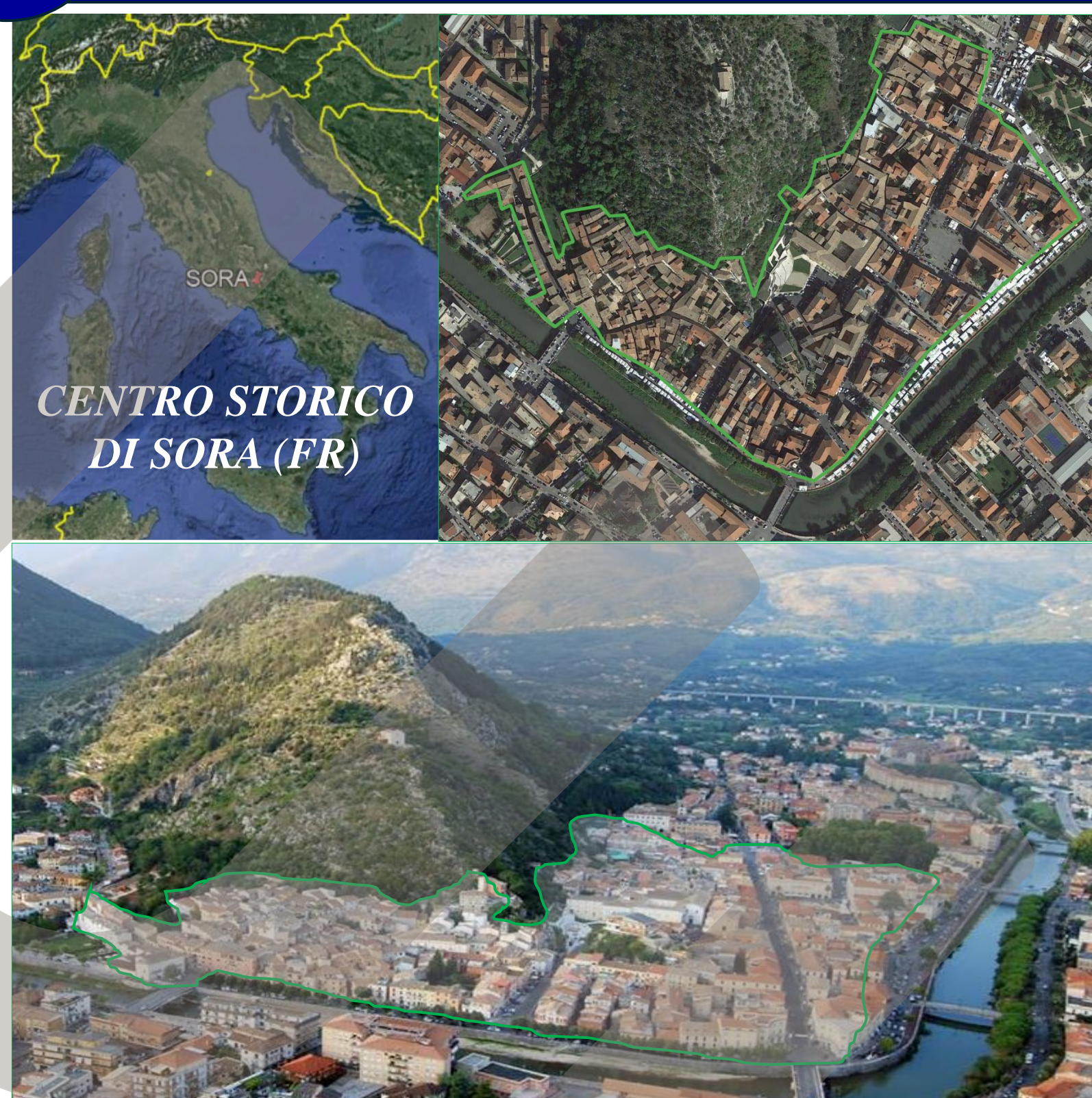
STEP 3: curve di capacità



STEP 6: curve di fragilità delle categorie di edifici

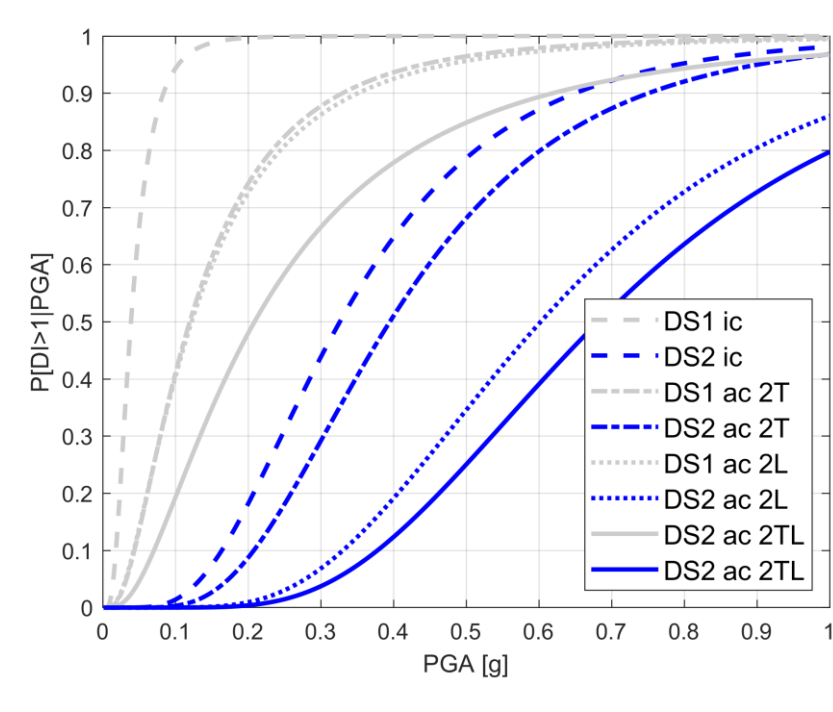
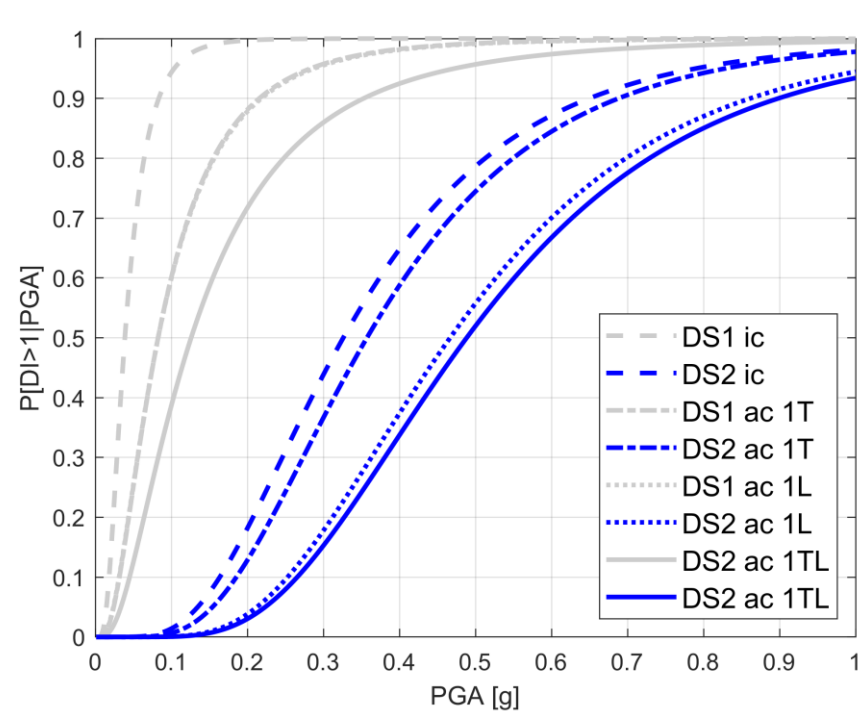


4 APPLICAZIONI

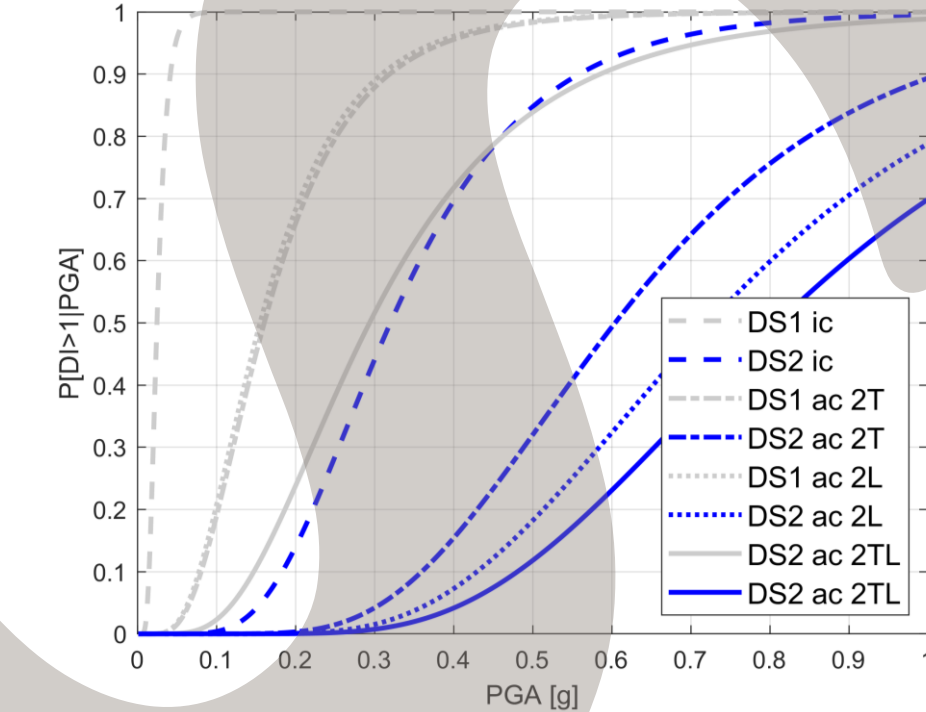
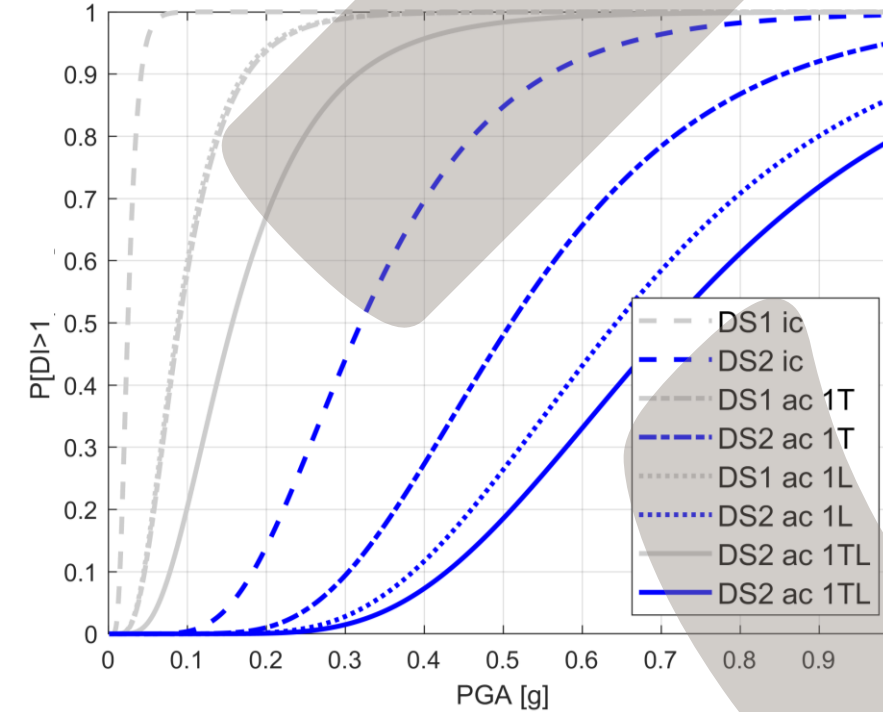


5 RISULTATI

MUR 1



MUR 2



RIFERIMENTI

Cima V., Tomei V., Grande E. and Imbimbo M. (2023 a). Fragility curves for residential unreinforced masonry buildings prone to out-of-plane mechanisms: the case of the historical center of Sora. XIX ANIDIS Conference, Torino, 11-15 September 2022. Procedia Structural Integrity, 44: 211-218.

Cima, V., Tomei, V., Grande, E., Imbimbo, M. (2023 b): "An approach for deriving fragility curves of masonry buildings in aggregates". In "COMPDYN 2023 9th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Athens, Greece, 12-14 June 2023.

Cima, V., Tomei, V., Grande, E., Imbimbo, M. (2023 c): "Fragility curves for the seismic assessment of masonry buildings in historic centres prone to out-of-plane failure modes". Bull Earthquake Eng 22, 1801-1826 (2024). <https://doi.org/10.1007/s10518-023-01831-7>.

Cima, V., Tomei, V., Grande, E., Imbimbo, M. (2024): The Influence of the Aggregate Configuration on the Seismic Assessment of Unreinforced Masonry Buildings in Historic Urban Areas. Sustainability, 16(10), 4172; <https://doi.org/10.3390/su16104172>.

Cima, V., Tomei, V., Grande, E., Imbimbo, M. (2024): "An approach for large-scale seismic vulnerability assessment of URM buildings in aggregate". 18th World Conference on earthquake engineering WCEE2024 Milan, Italy.