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Interactive comment on "GPR and IRT Tests in two Historical Buildings in Gravina in Puglia" *by* Loredana Matera et al.

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The reviewer is right in deeming that reflections in air are well matched with the anomaly in fig. 9, but this does not arease some "problematicity" of that anomaly. In fact, as the reviewer can see in the attahced file, the matching is achieved not with a hyperbola but rather with a couple of hyperbolas in air. The hypothesis of two pipes in the wall (they would have been expected quite shallow, so that the propagation of the waves would have been occurred substantially in air) was compatible (in principle) with these hyperbolas, even if the strenght of their crossing point (even hypothesizing some in-phase summation of the contributions) was anomalous. Moreover, indeed the best matching seems to us to be achieved for a propagation velocity of 27 cm/ns instead of 30, but this minimal difference might be due to some bent propagation path of the waves. In particular, we suspect that the spurious radiation of the antennas in

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air is first of all "lateral", otherwise the target (that we now assume to correspond to the lights) should have appeared as a unique hyperbola with the maximum at the center of the Bscan.

Please also note the supplement to this comment:
http://www.geosci-instrum-method-data-syst-discuss.net/gi-2016-14/gi-2016-14-AC2-supplement.pdf

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