Printed Wideband Metamaterial Antennas for Ballistic Panels

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Project Summary

The objective of the project is to develop the manufacturing processes and antenna designs needed to integrate a wideband metamaterial antenna within the composite materials of ballistic panels, maintaining antenna performance without degrading ballistic performance of the structures. To that end, we are developing different ferrite-based and metamaterial antenna concepts capable of operating over wideband frequency range extending from few hundred MHz to 8 GHz. We are also exploring the antenna designs that will allow it also to be tunable (reconfigurable) to one or more specific frequencies for communications. Additionally, we intended to model and study the performance of the integrated antenna when mounted onto a vehicular platform.