

## README for

### **Beampattern Shaping in 4D-Imaging Automotive MIMO Radars MATLAB Code**

#### **Overview**

This collection of MATLAB codes is developed to support the findings and methodologies presented in the paper titled "Beampattern Shaping in 4D-Imaging Automotive MIMO Radars". The codes are designed to reproduce the results and figures discussed in the paper, providing a hands-on experience to understand and evaluate the proposed beampattern shaping method in automotive MIMO radar systems.

#### **Getting Started**

##### Results and Figures

To visualize the results and figures as illustrated in the paper, navigate to the `results` folder and execute the `result.m` script. This script will generate the figures corresponding to the results discussed in the paper, allowing for a direct comparison and analysis.

*Note:* Figures 1, 2, and 16 are not included in the MATLAB implementation.

##### Main Functionality

The core function of the proposed beampattern shaping method is encapsulated within the `main functions` folder. Users interested in exploring deeper into the methodology and its implementation are encouraged to explore the codes within this folder.

#### **Additional Information**

For any queries or further assistance, please refer to the documentation within each script or contact the authors through the correspondence provided in the paper. We welcome feedback and discussions to enhance the understanding and application of the proposed method.

Thank you for your interest in our research and MATLAB implementation.

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