Abstract
The remote detection of a vehicle requires that some kinds of its emissions are tracked and detected. Usually, electromagnetic emissions are used in the form of radar (electromagnetic waves in the range of radiofrequency and microwaves). Different types of antennas are used as sensors, tailored to the signal frequency band and its polarization, as well as to the target distance (higher gain antennas used for low amplitude signals). For the specific case of radars, the use of computational methods to address the electromagnetic signature (spatial pattern of the scattered energy from the object) has become widespread, given the high costs and complex equipment associated with these respective measurements. Therefore, the use of computer simulation is ideally suited for creating a realistic database of targets and its respective signatures. The same computer-created signatures database can also be used for the thermal range, enabling a complete technology solution for the signature and design of stealth vehicles, with reduced emissions.

Keywords
Radar cross section, Electromagnetic scattering, Computational modeling.