Abstract

This diploma thesis presents a single case study exploring how the Galileo Global Navigation Satellite System (GNSS), a European autonomous navigation system, deals with threats. Space systems nowadays face many types of dangers including electronic, cyber, kinetic physical, directed energy or natural attacks. At this point, since Galileo GNSS is one of the most advanced technologies that is also considered to be a strategic one (for EU and ESA), it is important to reveal and describe the system's vulnerabilities to external material or technical threats. This diploma thesis describes the history, development, current situation and position of Galileo GNSS on the global scene. Furthermore, this thesis will summarize the possible material threats to space objects and finally operationalize them to the conditions of Galileo. The prevention measures identified as insufficient or improvement-worthy are then presented with recommendations for possible future development or enhancing factors which would increase Galileo's strategic service (PNT) safety.