Method of Detecting Cyber Attacks on a Cyber Physical System which includes at least one Computing Device Coupled to at least One Sensor and/or Actuator for Controlling a Physical Process

Abstract

A method (100) of detecting cyber attacks on a cyber physical system is disclosed, and the system includes at least one computing device coupled to at least one sensor and/or actuator for controlling a physical process. The method comprises: deriving (102) at least one invariant for the computing device, based on a system design of the system or computer code configured to control the system in relation to the physical process or data collected from the system during testing or operation of the system, the invariant defining a set of conditions that enable determination from the sensor and/or actuator regarding process anomalies of the physical process being controlled; configuring (104) the invariant as corresponding computer code; and executing (106) the invariant as the computer code on the computing device to monitor the physical process via the sensor and/or actuator and detect the process anomalies for detecting the cyber attacks.

FIG. 1