Abstract: The proposed baggage-tracking system is designed to improve airport security and expedite the retrieval of baggage belonging to passengers suspected of posing a threat to the safe flight of an aircraft. As passengers check in, the dimensions of each piece of their luggage are obtained via a non-invasive laser-light-sensor system, and are input to a computer. The weight of the luggage is also input to the computer. Based on a codebook associated with the flight, date, weight, dimensions, type of aircraft, the number of passengers booked for this flight and weight and balance constraints, the computer assigns the luggage to a specific container and to a specific location within the container. Furthermore, a special tag is issued by the computer. The tag denotes the container number and the position within the container of the luggage. Each tag contains an antenna responding to a very narrow band of frequencies. The antenna frequency of the tag is also input to the computer: if the passenger does not board the aircraft, this information is used to remove the passenger's luggage within a relatively short time. (7 refs)