

Title (en)  
LOCOMOTIVE LOCATION SYSTEM AND METHOD

Title (de)  
LOKOMOTIVEN-POSITIONSBESTIMMUNGSSYSTEM UND -VERFAHREN

Title (fr)  
SYSTEME ET PROCEDE DE LOCALISATION D'UNE LOCOMOTIVE

Publication  
**EP 1690192 A4 20090311 (EN)**

Application  
**EP 04800472 A 20041104**

Priority  
• US 2004032781 W 20041104  
• US 70004403 A 20031104

Abstract (en)  
[origin: US2004140405A1] A train location system and method utilizes inertial measurement inputs, including orthogonal acceleration inputs and turn rate information, in combination with wheel-mounted tachometer information and GPS/DGPS position fixes to provide processed outputs indicative of track occupancy, position, direction of travel, velocity, etc. Various navigation solutions are combined together to provide the desired information outputs using an optimal estimator designed specifically for rail applications and subjected to motion constraints reflecting the physical motion limitations of a locomotive. The system utilizes geo-reconciliation to minimize errors and solutions that identify track occupancy when traveling through a turnout.

IPC 8 full level  
**B61L 25/02** (2006.01); **G06F 17/00** (2006.01)

CPC (source: EP US)  
**B61L 25/021** (2013.01 - EP US); **B61L 25/023** (2013.01 - EP US); **B61L 25/025** (2013.01 - EP US); **B61L 25/026** (2013.01 - EP US);  
**B61L 25/028** (2013.01 - EP US); **B61L 2205/04** (2013.01 - EP US)

Citation (search report)  
• [X] US 6218961 B1 20010417 - GROSS ERIC [US], et al  
• [X] EP 0791518 A1 19970827 - WESTINGHOUSE AIR BRAKE CO [US]  
• [X] EP 0893322 A1 19990127 - WESTINGHOUSE AIR BRAKE CO [US]  
• [X] EP 0893323 A1 19990127 - WESTINGHOUSE AIR BRAKE CO [US]  
• See references of WO 2005048000A2

Citation (examination)  
• US 2002045975 A1 20020418 - CARR GARY A [US], et al  
• US 6428713 B1 20020806 - CHRISTENSON JOHN CARL [US], et al

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DOCDB simple family (publication)  
**US 2004140405 A1 20040722**; EP 1690192 A2 20060816; EP 1690192 A4 20090311; WO 2005048000 A2 20050526;  
WO 2005048000 A3 20060323

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