US010712448B2

(12) **United States Patent**
**Walker et al.**

(10) **Patent No.: US 10,712,448 B2**
(45) **Date of Patent: Jul. 14, 2020**

(54) **REAL-TIME CORRELATION OF SENSED POSITION DATA WITH TERRESTRIAL FEATURES**

(71) Applicant: **Freeport-McMoRan Inc.**, Phoenix, AZ (US)

(72) Inventors: **Mary Amelia Walker**, Phoenix, AZ (US); **Robert Catron**, Phoenix, AZ (US); **Brian Vaughan**, St. Louis, MO (US); **Hung Jung Lu**, St. Louis, MO (US)

(73) Assignee: **Freeport-McMoRan Inc.**, Phoenix, AZ (US)

( * ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 91 days.

(21) Appl. No.: **16/167,989**

(22) Filed: **Oct. 23, 2018**

(65) **Prior Publication Data**

US 2020/0124741 A1 Apr. 23, 2020

(51) **Int. Cl.**

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|---|---|
| ***G01S 19/27*** | (2010.01) |
| ***G06N 5/04*** | (2006.01) |
| ***G01S 19/07*** | (2010.01) |
| ***G06F 17/15*** | (2006.01) |

(52) **U.S. Cl.**

CPC ..... ***G01S 19/27*** (2013.01); ***G01S 19/07*** (2013.01); ***G06F 17/15*** (2013.01); ***G06N 5/046*** (2013.01)

(58) **Field of Classification Search**

None

See application file for complete search history.

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*Primary Examiner* — Abdhesh K Jha

(74) *Attorney, Agent, or Firm* — Fennemore Craig, P.C.

(57) **ABSTRACT**

Methods and systems of correlating sensed position data with terrestrial features receive sensed position data from a position sensing system operatively associated with a moveable object; select a reduced set of snap point candidates from terrestrial data based on a sensed position point; choose a best snap point candidate from among the reduced set of snap point candidates based on a plurality of predictive variables and corresponding weighting factors for each snap point candidate in the reduced set of snap point candidates; and snap the sensed position point to the best snap point candidate to produce a snapped position point. The selecting, choosing, and snapping processes are performed in substantially real time so that the systems and methods correlate the sensed position data from the moveable object with terrestrial features in substantially real time.

**23 Claims, 12 Drawing Sheets**