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(54) **METHOD AND APPARATUS FOR MONITORING ABRASIVE MACHINING**

(57) There is disclosed a method of monitoring abrasion of a component during abrasive machining. The method comprises generating an acceleration signal corresponding to movement of the component or of an abrasive tool in response to abrasive machining of the component by the tool; generating an acoustic emission signal corresponding to acoustic waves emitted from within the component; and determining an abrasion parameter

relating to the removal of material from the component based on a set of input variables including the acceleration signal and the acoustic emission signal. There is also disclosed an apparatus for abrasion monitoring and optionally abrasive machining, and a non-transitory machine readable storage medium comprising instructions for abrasion monitoring.

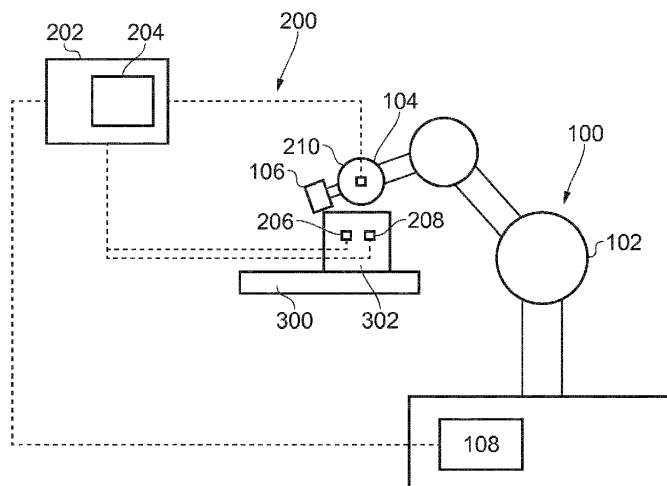


FIG. 1



## EUROPEAN SEARCH REPORT

Application Number  
EP 17 18 4674

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EPO FORM 1503 03.02 (P04C01)

| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                   |                                                        |                                              |
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| Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Citation of document with indication, where appropriate, of relevant passages                                     | Relevant to claim                                      | CLASSIFICATION OF THE APPLICATION (IPC)      |
| X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CN 101 670 553 A (UNIV ZHEJIANG; NINGBO MOS GROUP CO LTD)<br>17 March 2010 (2010-03-17)<br>* the whole document * | 1-15                                                   | INV.<br>B24B49/00<br>B24B49/16<br>B24B37/005 |
| X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | US 2013/189801 A1 (MOLNAR CHARLES J [US])<br>25 July 2013 (2013-07-25)<br>* paragraphs [0137], [0160] *           | 1,5,9,14                                               |                                              |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | * paragraphs [0137], [0160] *                                                                                     | 4                                                      |                                              |
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| The present search report has been drawn up for all claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                   |                                                        |                                              |
| Place of search<br><b>Munich</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                   | Date of completion of the search<br><b>6 June 2018</b> | Examiner<br><b>Koller, Stefan</b>            |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document<br>T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding document |                                                                                                                   |                                                        |                                              |

**ANNEX TO THE EUROPEAN SEARCH REPORT  
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82