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# United States Patent [19]

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Perron et al.

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[54] **PROCESS FOR CONTROLLING ROTARY CALCINING KILNS, AND CONTROL SYSTEM THEREFOR**

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### Related U.S. Application Data

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[51] Int. Cl.<sup>6</sup> ..... **G06F 19/00**

[52] U.S. Cl. .... **364/503; 364/477**

[58] Field of Search ..... 364/477, 503; 395/61, 900, 906; 432/19, 45, 18, 49, 105, 109, 103, 14; 201/27, 32; 110/246; 106/743, 760; 423/345; 136/232, 233, 234; 374/139, 179, 208

### [57] ABSTRACT

A process and control system for controlling a rotary calcining kiln having a feed material inlet for material to be calcined, a calcined product outlet and a high temperature zone in which said material is calcined, the high temperature zone being movable within the rotary calcining kiln according to changes in operational control variables of the rotary calcining kiln. The process comprises measuring temperatures within the rotary calcining kiln at various positions spaced from each other along the rotary calcining kiln in a region overlapping a predetermined desired position for the high temperature zone, and adjusting the control variables to move the high temperature zone to the desired position when the high temperature zone deviates from the desired position. In the process, the temperatures are measured by thermocouples having thermocouple junctions protected by heat and abrasion resistant sheaths, preferably made of alumina/silicon carbide ceramics, positioned within the rotary calcining kiln.

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**18 Claims, 13 Drawing Sheets**

