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(54) **Soft-Output Viterbi Detection Using a Radix-n Trellis**

Viterbi Detektion mit weichen Entscheidungen unter Verwendung eines Radix-n Trellis

Détection de Viterbi à sortie pondérée utilisant un treillis à base n

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(73) Proprietor: **Avago Technologies General IP  
(Singapore) Pte. Ltd.  
Singapore 768923 (SG)**

(72) Inventors:  

- **Ashley, Jonathan James  
Los Gatos, CA 95031 (US)**
- **Fitzpatrick, Kelly Knudson  
Sudbury, MA 01776 (US)**
- **Haratsch, Erich Franz  
Bethlehem, PA 18017 (US)**

(74) Representative: **Dilg, Haeusler, Schindelmann  
Patentanwaltsgesellschaft mbH  
Leonrodstrasse 58  
80636 München (DE)**

(56) References cited:  

- **LUTHI E ET AL: "High rate soft output Viterbi decoder", PROC. EUROPEAN DESIGN AND TEST CONFERENCE 1996, 11 March 1996 (1996-03-11), pages 315-319, XP010159548, Paris, France ISBN: 0-8186-7423-7**
- **YEO E ET AL: "A 500-MB/S SOFT-OUTPUT VITERBI DECODER", IEEE JOURNAL OF SOLID-STATE CIRCUITS, IEEE SERVICE CENTER, PISCATAWAY, NJ, US, vol. 38, no. 7, July 2003 (2003-07), pages 1234-1241, XP001169609, ISSN: 0018-9200**
- **JOERESSEN O J ET AL: "HIGH-SPEED VLSI ARCHITECTURES FOR SOFT-OUTPUT VITERBI DECODING", JOURNAL OF VLSI SIGNAL PROCESSING SYSTEMS FOR SIGNAL, IMAGE, AND VIDEO TECHNOLOGY, SPRINGER, NEW YORK, NY, US, vol. 8, no. 2, 1 October 1994 (1994-10-01), pages 169-181, XP000483302, ISSN: 0922-5773**

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- **FANG LI ET AL: "Multi-order soft output viterbi algorithm (SOVA) decoder fix point performance simulation", PROC. OF INFO-TECH AND INFO-NET 2001, vol. 2, 29 October 2001 (2001-10-29), pages 151-155, XP010577130, Beijing, China ISBN: 0-7803-7010-4**