

Patents Citing Fionn Murtagh's Work on: Signal Processing

(1)

Compression of optical readout biomolecular sensory data
United States Patent 6580831

Abstract:

The present invention provides a system and method for compression of image data while preserving the usable information and eliminating or reducing associated noise in which the image data includes a signal and noise. The image data is transformed using a multiscale transform technique (such as the Pyramidal Median Transform) such that the image data is represented as a plurality of transform coefficients each having a corresponding weight. From the respective weights, those transform coefficients associated with noise are determined and extracted from the original plurality of transform coefficients. The remaining transform coefficients are subsequently quantized and coded.

Publication Date: 06/17/2003

Filing Date: 01/14/2002

Asignee: Infineon Technologies AG (Munich, DE)

Other References include:

J.-L. Starck, F. Murtagh, and M. Louys, "Astronomical Image Compression Using the Pyramidal Median Transform", *Astronomical Data Analysis Software and Systems IV, ASP Conference Series*, vol. 77, pp. 1-4, 1995.;, vol. 77, pp. 1-4, 1995.

From the Description:

The PMT was developed for application in compression of astronomical images, i.e. huge images with sparse round or disk-like features (such as stars etc.), some image distortions, and noise, as further described in "Image processing and data analysis: The Multiscale Approach", by J. L. Starck, F. Murtagh, and A. Bijaoui, *Astronomical Data Analysis Software and Systems IV, ASP Conference Series*, Vol. 77, pages 1-4, 1995, which is hereby incorporated by reference. The invention advantageously exploits characteristics of ORBS data and properties of the Pyramidal Median Transform (PMT) to permit discrimination between signal and noise.

(2)

Method for reducing data storage and transmission requirements for seismic data
United States Patent 5745392

Abstract:

A method for compressing seismic data to reduce data storage and transmission requirements applies wavelet transforms to digitized trace sequential data obtained from plural arrays of multiple acoustic sensors. The wavelet transforms are applied in at least three dimensions, and, in the case of underwater exploration, four dimensions. The transformed data is ordered and quantized to increase the number of zero data values, and the quantized data is compressed using run-length encoding and entropy coding. The entropy coded data is stored for later retrieval or transmitted to a remote location. The retrieved or received data is decompressed, dequantized and inverse wavelet transformed to construct a representation of the original data. The compression can be selected to be in excess of 100:1 to significantly reduce the data storage and transmission requirements without significant degradation of the reconstructed data.

Inventors:

Ergas, Raymond A. (Laguna Beach, CA)
Donoho, Paul L. (Houston, TX)
Villasenor, John (Santa Monica, CA)

Publication Date: 04/28/1998

Filing Date: 10/05/1995

Assignee: Chevron U.S.A. Inc. (La Habra, CA)

From Other References:

Starck, J.-L., and Murtagh, F., Multiresolution Image Analysis using Wavelets-- Recent Results, Bulletin of the American Astronomical Society, 283, pp. 349-360 (1994).

(3)

Game theoretic prioritization scheme

Abstract:

A method for providing unequal allocation of rights among agents while operating according to fair principles, comprising assigning a hierarchical rank to each agent; providing a synthetic economic value to a first set of agents at the a high level of the hierarchy; allocating portions of the synthetic economic value by the first set of agents to a second set of agents at respectively different hierarchical rank than the first set of agents; and conducting an auction amongst agents using the synthetic economic value as the currency.

Application number: 11/005,460 Or: 11005460

Filing date: Dec 6, 2004

Inventor: Steven M. Hoffberg

References include:

F. Murtagh, J.L. Starck and M.W. Berry, "Overcoming the curse of dimensionality in clustering by means of the wavelet transform".

Some others follow (from Google Patents).

(4)

Game theoretic prioritization scheme for mobile ad hoc networks permitting ...
US Pat. 7590589 - Filed Dec 6, 2004

F. Murtagh and JL Starck, "Wavelets and Multiscale Transforms in Massive Data

...

JL Starck and F. Murtagh, "Image Filtering by Combining Multiple Vision ...

(5)

[APPLICATION] MULTIFACTORIAL OPTIMIZATION SYSTEM AND METHOD
US Pat. 11467931 - Filed Aug 29, 2006

[1336] F. Murtagh and JL Starck, "Wavelets and Multiscale Transforms in Massive ...

[1339] JL Starck and F. Murtagh, "Image Filtering by Combining Multiple ...

(6)

[APPLICATION] Magnetic resonance force microscope
US Pat. 11712840 - Filed Mar 1, 2007 –
JEOL Ltd., Kyoto University, Yokohama City University'538- 545;

and [0095] "Image Processing and Data Analysis," J.-L. Starck and F. Murtagh and
A. Bijaoui, Cambridge University Press, 1988. ...

(7)

Self-palpation device for examination of breast
US Pat. 6468231 - Filed Mar 28, 2001 –
Artann Laboratories

In box 113, data file $P(x, y, t)$ is processed by one of the known approximation and filtration methods, as described for example by J.-L. Stark, F. Murtagh ...

(8)

Apparatus and method for mechanical imaging of breast
US Pat. 6620115 - Filed Apr 26, 2001 - Armed L.L.C

In box 125 data are processed by one of the known approximation and filtration method, as described for example by J. -L. Stark, F. Murtagh and A. ...

(9)

Compression of optical readout biomolecular sensory data
US Pat. 6580831 - Filed Jan 14, 2002 - Infineon Technologies AG

J.-L. Starck, F. Murtagh, and M. Louys, "Astronomical Image Compression Using the Pyramidal Median Transform", Astronomical Data Analysis Software and ...
