



## Selective diffusion for oriented pattern extraction: Application to tagged cardiac MRI enhancement

Submitted by Emmanuel Lemoine on Thu, 01/30/2014 - 14:35

|                       |  |
|-----------------------|--|
| Titre                 | Selective diffusion for oriented pattern extraction: Application to tagged cardiac MRI enhancement   |
| Type de publication   | Article de revue   |
| Auteur                | Histace, A. [1], Ménard, M. [2], Cavaro-Ménard, Christine [3]  |
| Type                  | Article scientifique dans une revue à comité de lecture  |
| Année                 | 2009   |
| Langue                | Anglais  |
| Date                  | 2009/11/01   |
| Numéro                | 15   |
| Pagination            | 1356 - 1365  |
| Volume                | 30   |
| Titre de la revue     | Pattern Recognition Letters  |
| ISSN                  | 0167-8655  |
| Mots-clés             | Extreme [4], Image [5], Oriented [6], Selectivity [7], Tagged [8]  |
| Résumé en anglais     | Anisotropic regularization PDE's (Partial Differential Equation) raised a strong interest in the field of image processing. The benefit of PDE-based regularization methods lies in the ability to smooth data in a nonlinear way, allowing the preservation of important image features (contours, corners or other discontinuities). In this article, a selective diffusion approach based on the framework of Extreme Physical Information theory is presented. It is shown that this particular framework leads to a particular regularization PDE which makes the integration of prior knowledge possible within the diffusion scheme. As a proof of feasibility, results of oriented pattern extractions are first presented on ad hoc images and second on a particular medical application: Tagged cardiac MRI (Magnetic Resonance Imaging) enhancement. |
| URL de la notice      | <a href="http://okina.univ-angers.fr/publications/ua1460">http://okina.univ-angers.fr/publications/ua1460</a> [9]  |
| DOI                   | 10.1016/j.patrec.2009.07.012 [10]  |
| Lien vers le document | <a href="http://dx.doi.org/10.1016/j.patrec.2009.07.012">http://dx.doi.org/10.1016/j.patrec.2009.07.012</a> [10]   |

### Liens

- [1] [http://okina.univ-angers.fr/publications?f\[author\]=2073](http://okina.univ-angers.fr/publications?f[author]=2073)
- [2] [http://okina.univ-angers.fr/publications?f\[author\]=2074](http://okina.univ-angers.fr/publications?f[author]=2074)
- [3] <http://okina.univ-angers.fr/c.menard/publications>
- [4] [http://okina.univ-angers.fr/publications?f\[keyword\]=4686](http://okina.univ-angers.fr/publications?f[keyword]=4686)
- [5] [http://okina.univ-angers.fr/publications?f\[keyword\]=4364](http://okina.univ-angers.fr/publications?f[keyword]=4364)
- [6] [http://okina.univ-angers.fr/publications?f\[keyword\]=4687](http://okina.univ-angers.fr/publications?f[keyword]=4687)

- [7] [http://okina.univ-angers.fr/publications?f\[keyword\]=3539](http://okina.univ-angers.fr/publications?f[keyword]=3539)
- [8] [http://okina.univ-angers.fr/publications?f\[keyword\]=4688](http://okina.univ-angers.fr/publications?f[keyword]=4688)
- [9] <http://okina.univ-angers.fr/publications/ua1460>
- [10] <http://dx.doi.org/10.1016/j.patrec.2009.07.012>

Publié sur *Okina* (<http://okina.univ-angers.fr>)