

# GRICS: Reconstruction process of a magnetic resonance image disrupted by patient physiological movements

MOTION BLUR CORRECTION - MRI - MEDICAL IMAGING - NMR

#### **COMPETITIVE ADVANTAGES**

 Better image quality and no data loss in comparison with blur correction technologies currently available.

#### **VALIDATION**

 Several image acquisitions on moving patients with and without « GRICS » technology - images available -

#### **APPLICATIONS/MARKETS**

- MRI, NMR, Tomography, Echography;
- · Medical imaging;
- Cardiac, pulmonary, renal, hepatic imaging....

#### INTELLECTUAL PROPERTY

The priority French application was deposited in 2007, followed by a PCT deposit in 2008, which initiated national entries in Europe, the USA, and in Canada:

France: FR2923598Canada: CA2705388Europe: EP2210119USA: US2011/0022375

#### **LABORATORY**

 Laboratoire Réactions et Génie des Procédés (LRGP)

#### **CONTACT**

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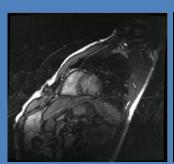
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### **PRESENTATION**

Adaptive magnetic resonance imaging (MRI) allows to adapt the imaging process to patients, taking into account their physiology and movements. During medical images acquisition, movements induce a kinetic blur, which alter image quality and can make the diagnostic impossible.

This new process remedies these problems by providing a way to reconstruct the image, by taking into account organs and patient movements directly from corrupted experimental data. It is based on an iterative image optimization, using data obtained by motion sensors. This process enables a reconstruction of the MRI image without motion blur.





Example of GRICS reconstruction with free-breathing 3842. Acquisition SSFP, Fourier standard reconstruction (left), GRICS reconstruction (right)