the image parameters to be distributed within an interval bounded by a first upper value and a first lower value.

8. The method of claim **6** wherein said digital image is represented by a 2-dimensional matrix [d].

9. The method of claim **6** wherein said digital image is represented by a 3-dimensional matrix [d].

10. The method of claim **6** wherein one or more calculations comprised by steps of said method are performed using a programmed computer.

11. The method of claim **6** wherein said inverse sharpening filter of step b is constructed using constraints comprising weights imposed upon image parameters.

12. The method of claim **11** wherein said inverse sharpening filter comprises a minimum gradient support constraint.

13. The method of claim **6** wherein step c further includes using conjugate gradient re-weighted optimization.

14. The method according to claim **6**, wherein: said step b) further comprises the steps of determining the spatial gradient of the partially sharpened image parameters and subsequently deriving a variable weighting function accomplishing a minimum gradient support constraint based upon minimizing the area of a nonzero spatial gradient of the image parameters.

15. The method according to claim **14**, wherein: said minimum gradient support constraint is of the form

$$\frac{\|\nabla m\|^2}{\|\nabla m\|^2 + e^2} = \text{minimum}$$

16. The method according to claim **6**, wherein: said step c) further includes the step of solving the following numerical formula for (n+1)-th iterations:

$$\hat{m}_{g,n+1}{}^{w} = \hat{m}_{g,n}{}^{w} + \delta\hat{m}g,n^{w} = \hat{m}g,n - k_n\hat{l}(\hat{m}_{g,n}{}^{w}),$$

wherein weighted conjugate gradient directions $\hat{l}(\hat{m}_{g,n}{}^{w})$ are determined by the expressions:

$$\hat{l}(\hat{m}_{g,n}{}^{w}) - \hat{l}(\hat{m}_{g,n}{}^{w}) + \beta_n\hat{l}(\hat{m}_{g,n}{}^{w})$$

$$\hat{l}(\hat{m}_{g,n}{}^{w}) = \hat{W}_{en}{}^{-1}\hat{B}_g{}^{*}(\hat{B}_g(\hat{W}_{en}{}^{-1}\hat{m}_{g,n}{}^{w}) - \hat{d}) + \alpha\hat{m}_{g,n}{}^{w},$$

and $\hat{W}_{en}$ is the matrix of said sharpening filter, wherein the length of the step k_n is determined by the line search to the minimum of the functional of the weighted image parameters $P_g{}^{a}(\hat{m}_{g,n} - k_n\hat{l}(\hat{m}_{g,n}{}^{w}))$., and parameters β_n is calculated by the formula:

$$\beta_n = \frac{\left\|\hat{l}(\hat{m}^{w}_{g,n})\right\|^2}{\left\|\hat{l}(\hat{m}^{w}_{g,n-1})\right\|^2}.$$

.

17. The method according to claim **6**, wherein: said step d) further comprises recomputing the real parameters of the ideal image from the weighted parameters $\hat{m}_{g,n+1}$ at the (n+1)-th iteration by solving the following numerical formula:

$$\hat{m}_{n+1} = \hat{\nabla}^{-1}\hat{W}_{e(n+1)}\hat{m}_{g,n+1}.$$

18. The method according to claim **7**, wherein: said step imposing penalization comprises imposing the upper bound $m_a{}^{ub}(r)$ for the positive anomalous image parameter values, and the lower bound $-m_a{}^{1b}(r)$ for the negative anomalous image parameter values, and discarding all the values outside these bounds during the entire image restoration process, thereby to keep the image parameters values $m_n(r)$ always distributed within the interval:

$$m_{bg}(r) - m_a{}^{1b}(b\ r) \leq m_n(r) \leq m_{bg}$$

$$(r) + m_a{}^{ub}(r).$$

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