```
addpath(genpath('../..'))
MGNFWI_camenbert
```

velocity[m/s]

z [m]

x[m]
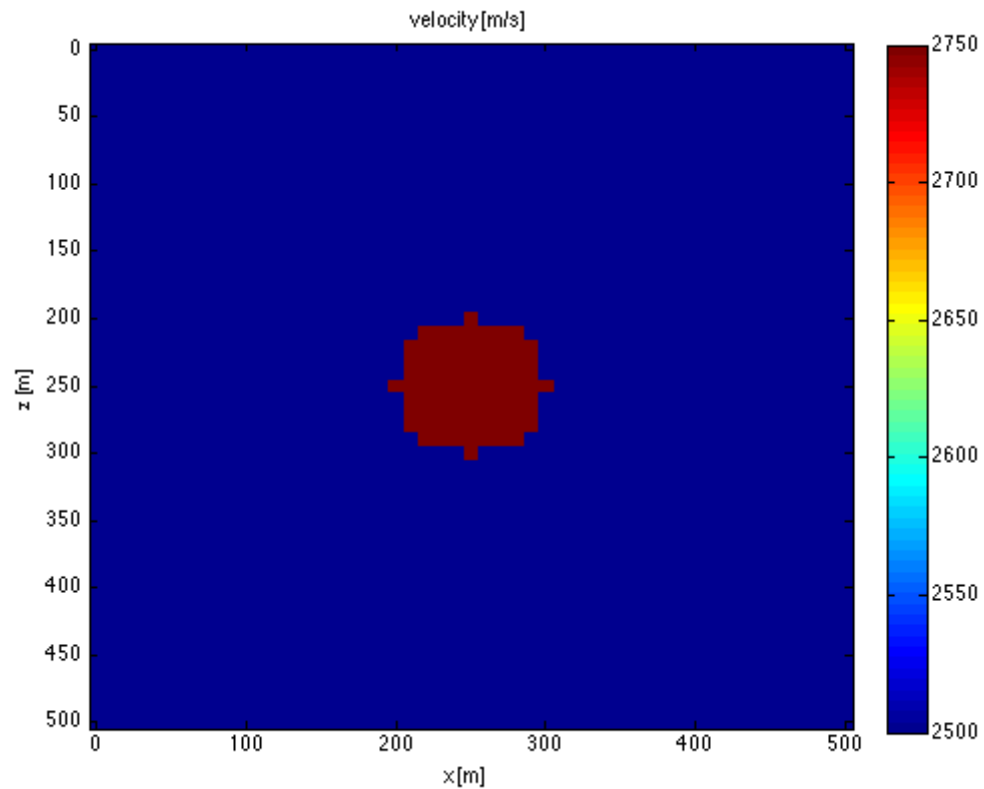
inversion

```
clear
load camenbert
opts.iterations = 20;
[results_1] = MGNFWI(reshape(m0,n),Dobs,wavelet,model,opts,1);
save results_1 results_1
clear
load camenbert
opts.iterations = 10;
[results_2] = MGNFWI(reshape(m0,n),Dobs,wavelet,model,opts,2);
save results_2 results_2
```

```
=== Now processing frequency band 1===

---calculating GN update 1 for frequency band 1---

two-norm wavefield difference of current frequency band is: 33.7278

=========================================================================
SPGL1_SLIM v. 46  (Tue, 14 Jun 2011) based on v.1017
=========================================================================
```

```
No. rows              :      1530       No. columns            :      2601
Initial tau           : 0.00e+00       Two-norm of b          : 3.37e+01
Optimality tol        : 1.00e-03       Target objective       : 0.00e+00
Basis pursuit tol     : 1.00e-03       Maximum iterations     :       20

 Iter      Objective    Relative Gap   Rel Error       gNorm     stepG     nnzX
    0   3.3727763e+01  0.0000000e+00   1.00e+00   5.415e+02      0.0        0
    5   1.9100829e+01  1.4153684e+00   1.00e+00   1.324e+02      0.0       20
    9   1.2324370e+01  1.3817932e+00   1.00e+00   2.962e+01      0.0       73
   13   9.0073800e+00  4.0600332e+00   1.00e+00   1.875e+01      0.0      162
   17   7.4498652e+00  4.7798128e+00   1.00e+00   1.061e+01      0.0      331
   20   7.4428216e+00  9.2149661e+01   1.00e+00   1.247e+02      0.0      557

ERROR EXIT -- Too many iterations

Products with A     :        24       Total time   (secs) :    166.6
Products with A'    :        22       Project time (secs) :      0.0
Newton iterations   :         6       Mat-vec time (secs) :    162.1
Line search its     :         4       Subspace iterations :        0


=== Now processing frequency band 1===


---calculating GN update 1 for frequency band 1---


two-norm wavefield difference of current frequency band is: 31.4296

    ========================================================================
    PQNL1_SLIM v. 46  (Tue, 14 Jun 2011) based on v.1017
    ========================================================================
    No. rows              :      1530       No. columns            :      2601
    Initial tau           : 0.00e+00       Two-norm of b          : 3.14e+01
    Optimality tol        : 1.00e-03       Target objective       : 0.00e+00
    Basis pursuit tol     : 1.00e-03       Maximum iterations     :       10

       0   3.1429642e+01  0.0000000e+00   1.00e+00   6.111e+02      0.0        0
       1   2.2553960e+01  8.3370769e-01   1.00e+00   1.836e+02      0.0       56
       2   1.2218499e+01  1.0305070e+01   1.00e+00   1.715e+02      0.0       76
       3   1.0356273e+01  2.8962536e+00   1.00e+00   4.019e+01      0.0       81
       4   8.8424890e+00  1.2069866e+01   1.00e+00   5.681e+01      0.0      100
       5   8.3676369e+00  3.7722400e+00   1.00e+00   1.417e+01      0.0      105
       6   7.7278668e+00  2.1956659e+01   1.00e+00   4.501e+01      0.0      119
       7   7.4343646e+00  3.7792844e+00   1.00e+00   7.075e+00      0.0      127
       8   7.0307787e+00  1.4875276e+01   1.00e+00   1.634e+01      0.0      141
       9   6.8200142e+00  7.2468437e+00   1.00e+00   6.801e+00      0.0      144

    ERROR EXIT -- Too many iterations

    Products with A     :        31       Total time   (secs) :    221.6
    Products with A'    :        32       Project time (secs) :      1.0
    Newton iterations   :        10       Mat-vec time (secs) :    215.4
```
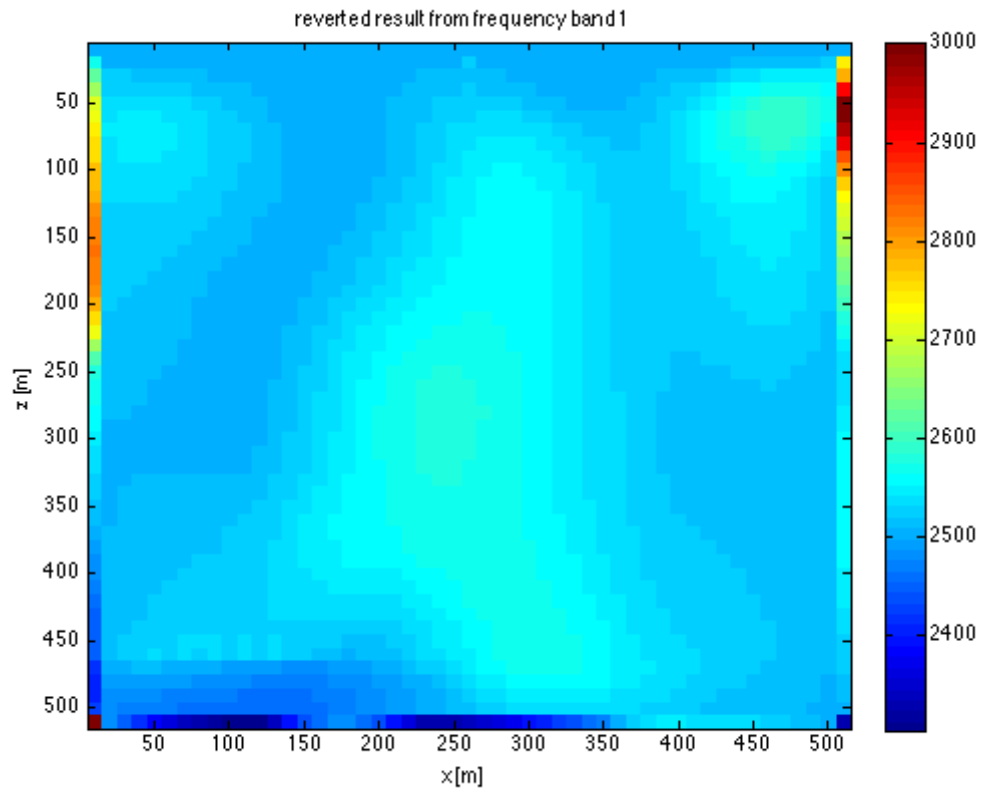
reverted result from frequency band 1

```
open MGNFWI_camenbert
open GN_up
open pqnl1_2
open minconf_pqn_2
open lbfgsupdate
```

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