



**XOR function approximation:**

| PSO parameters      | Sigmoid activation function | Hyperbolic Tangent activation function |
|---------------------|-----------------------------|--|
| Swarm size          | 100                         | 100                                    |
| Informants          | 6                           | 6                                      |
| Epsilon             | 0.2                         | 0.2                                    |
| Alpha range         | 0.9                         | 0.89                                   |
| Position range      | -0.1 to 0.1                 | -0.01 to 0.01]                         |
| Velocity range      | 0.05 to 0.15                | 0.05 to 0.15                           |
| Cognitive component | 1.8                         | 1                                      |
| Social component    | 3.2                         | 3                                      |
| Input Layer nodes   | 2                           | 2                                      |
| Hidden Layer nodes  | 20                          | 5                                      |
| Least MSE (approx)  | 0.015                       | 0.28                                   |

**Figure 7**