

ANN type	ANN architecture	Advantages	Disadvantages
JE1	<p>6 hidden layers</p> <p>Momentum learning rule</p> <p>Processing elements</p> <p>50 for the first four layers</p> <p>45 for the fifth layer</p> <p>37 for the sixth layer</p> <p>Tanh axons</p> <p>Trained for at least five cycles of 1000 epochs</p>	<p>Good percentage of training per aerosol class.</p> <p>Stable performances and approximatively constant for all aerosols classes.</p>	<p>Slow training/time consuming.</p> <p>Reach the training limit rapidly.</p>
JE2	<p>8 hidden layers</p> <p>Conjugate gradient learning rule</p> <p>Processing elements</p> <p>50 for the first four layers</p> <p>45 for the fifth layer</p> <p>37 for the sixth layer</p> <p>32 for the seventh layer</p> <p>28 for the eighth layer</p> <p>Tanh axons</p> <p>Trained for at least five cycles of 1000 epochs</p>	<p>Good percentage of training per aerosol class.</p> <p>Rapid training.</p>	<p>Only few training cycles can be done.</p> <p>Limited performance improvement after training.</p>
GFF	<p>10 hidden layers</p> <p>Momentum learning rule</p> <p>Processing elements</p> <p>50 for the first four layers</p> <p>45 for the fifth layer</p> <p>37 for the sixth layer</p> <p>Tanh axons</p> <p>Trained for at least five cycles of 1000 epochs</p>	<p>Low error of training after two training cycles.</p> <p>Rapid training.</p>	<p>It trains efficiently only several cycles a further improvement of weights cannot be considered.</p> <p>Stable active performances per aerosol type overall but lower values for several classes.</p>