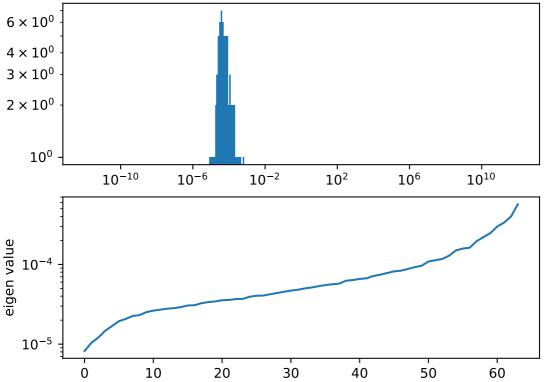


ep: 49 layer1.0.conv1 maxeig: 3.6e-03 mineig: 9.8e-06 con: 3.7e+02  $6 \times 10^{0}$  $4 \times 10^{0}$  $3 \times 10^{0}$  $2 \times 10^{0}$ 10<sup>0</sup> 1010 10-10 10<sup>2</sup> 10<sup>6</sup>  $10^{-6}$  $10^{-2}$ eigen value 10<sup>-3</sup> 10<sup>-5</sup> 50 60 10 20 30 40

ep: 49 layer1.0.conv2 maxeig: 5.7e-04 mineig: 8.2e-06 con: 6.9e+01



ep: 49 layer1.1.conv1 maxeig: 1.1e-04 mineig: 3.6e-06 con: 3.1e+01  $6 \times 10^{0}$  $4 \times 10^{0}$  $3 \times 10^{0}$  $2 \times 10^{0}$ 10<sup>0</sup> 10 10 10-10  $10^{-6}$ 10-2 10<sup>2</sup> 10<sup>6</sup>  $10^{-4}$ eigen value 10<sup>-5</sup> 50 60

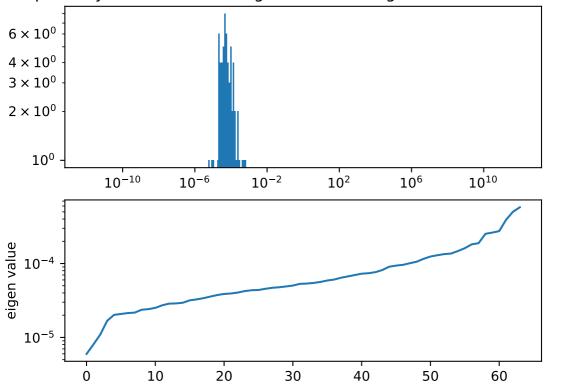
30

40

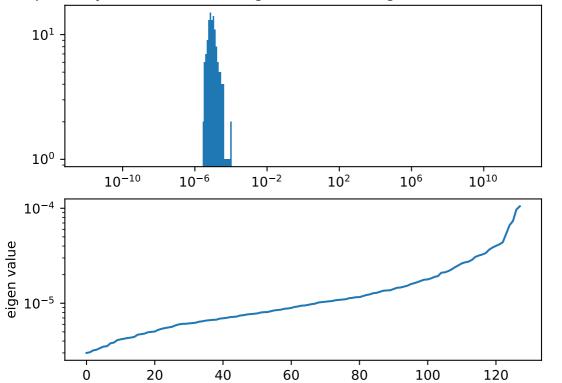
10

20

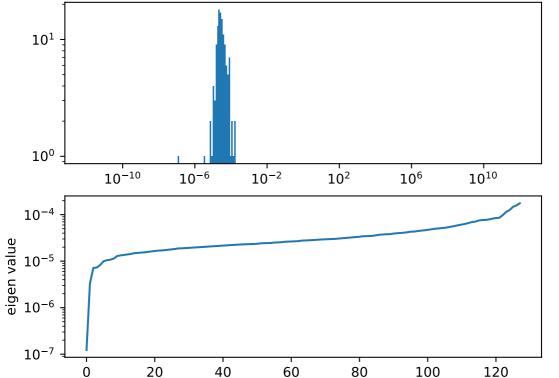
ep: 49 layer1.1.conv2 maxeig: 5.8e-04 mineig: 6.0e-06 con: 9.7e+01



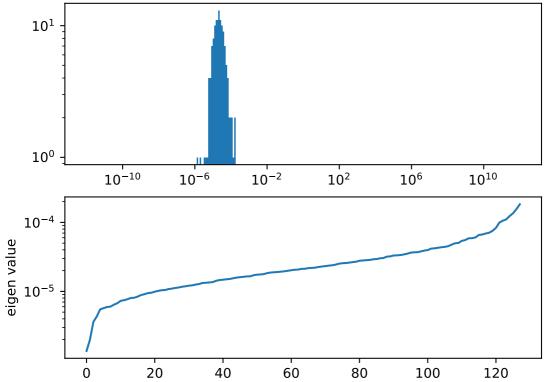
ep: 49 layer2.0.conv1 maxeig: 1.0e-04 mineig: 3.0e-06 con: 3.5e+01



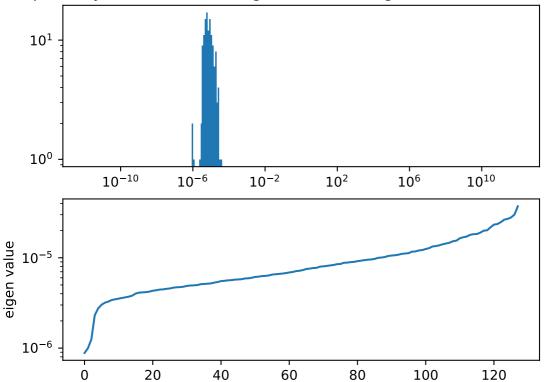
ep: 49 layer2.0.conv2 maxeig: 1.8e-04 mineig: 1.2e-07 con: 1.4e+03  $10^{1}$ 



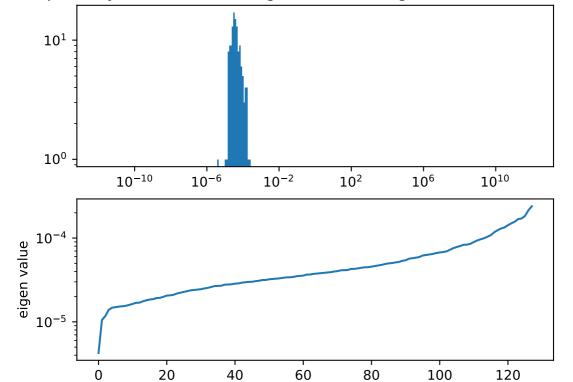
ep: 49 layer2.0.shortcut.0 maxeig: 1.8e-04 mineig: 1.4e-06 con: 1.3e+02



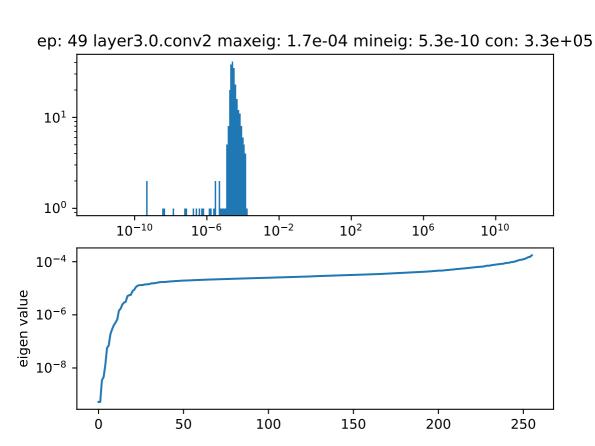
ep: 49 layer2.1.conv1 maxeig: 3.7e-05 mineig: 8.8e-07 con: 4.2e+01

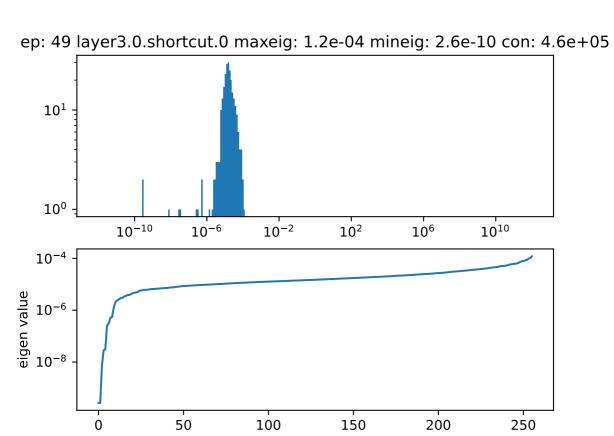


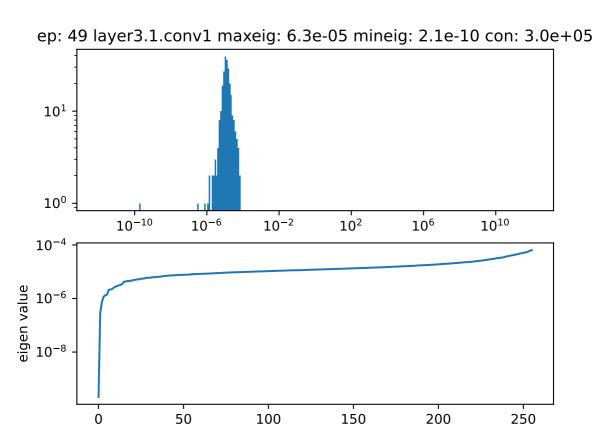
ep: 49 layer2.1.conv2 maxeig: 2.4e-04 mineig: 4.3e-06 con: 5.6e+01



ep: 49 layer3.0.conv1 maxeig: 7.1e-05 mineig: 1.1e-10 con: 6.7e+05 10<sup>1</sup> 10<sup>0</sup> 1010 10-10 10-2 10<sup>2</sup> 10<sup>6</sup>  $10^{-6}$ 10<sup>-5</sup> eigen value  $10^{-9}$ 250 50 100 150 200







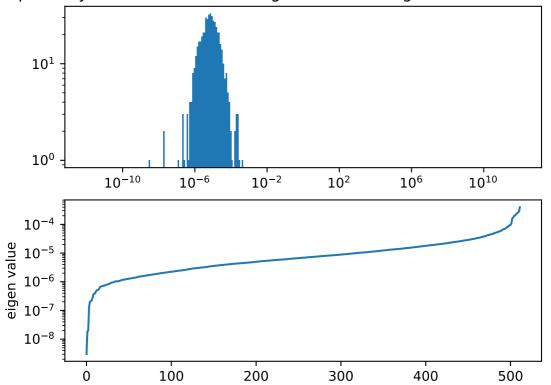
ep: 49 layer3.1.conv2 maxeig: 3.0e-04 mineig: 2.4e-06 con: 1.3e+02  $10^{1}$ 10<sup>0</sup> 10<sup>10</sup> 10<sup>2</sup> 10-10 10-6 10-2 10<sup>6</sup> eigen value 10<sup>-4</sup> 250 50 100 150 200

ep: 49 layer4.0.conv1 maxeig: 1.7e-04 mineig: 7.8e-07 con: 2.2e+02  $10^{1}$ 10<sup>0</sup> 10<sup>10</sup> 10-10 10<sup>2</sup>  $10^{-6}$ 10-2 10<sup>6</sup>  $10^{-4}$ eigen value 10<sup>-5</sup>  $10^{-6}$ 100 500 200 300 400

ep: 49 layer4.0.conv2 maxeig: 4.9e-04 mineig: 8.8e-09 con: 5.6e+04 10<sup>1</sup> 10<sup>0</sup> 10 10  $10^{-10}$ 10-2 10<sup>2</sup> 10<sup>6</sup>  $10^{-6}$  $10^{-4}$  $10^{-5}$  $10^{-6}$  $10^{-7}$ 10-8 100 500 200 300 400

eigen value

ep: 49 | layer4.0.shortcut.0 maxeig: 3.9e-04 mineig: 3.0e-09 con: 1.3e+05



ep: 49 layer4.1.conv1 maxeig: 1.7e-04 mineig: 2.9e-11 con: 5.9e+06  $10^{1}$ 10<sup>0</sup> 10<sup>10</sup> 10<sup>2</sup> 10-10 10-6 10-2 10<sup>6</sup>  $10^{-5}$ eigen value  $10^{-7}$  $10^{-9}$ 

200

300

400

500

100

ep: 49 layer4.1.conv2 maxeig: 1.2e-03 mineig: 3.7e-08 con: 3.3e+04  $10^{1}$ 10<sup>0</sup> 10 10 10-10  $10^{-6}$  $10^{-2}$ 10<sup>2</sup> 10<sup>6</sup>  $10^{-3}$  $10^{-4}$  $10^{-5}$  $10^{-7}$ 100 500 200 300 400

