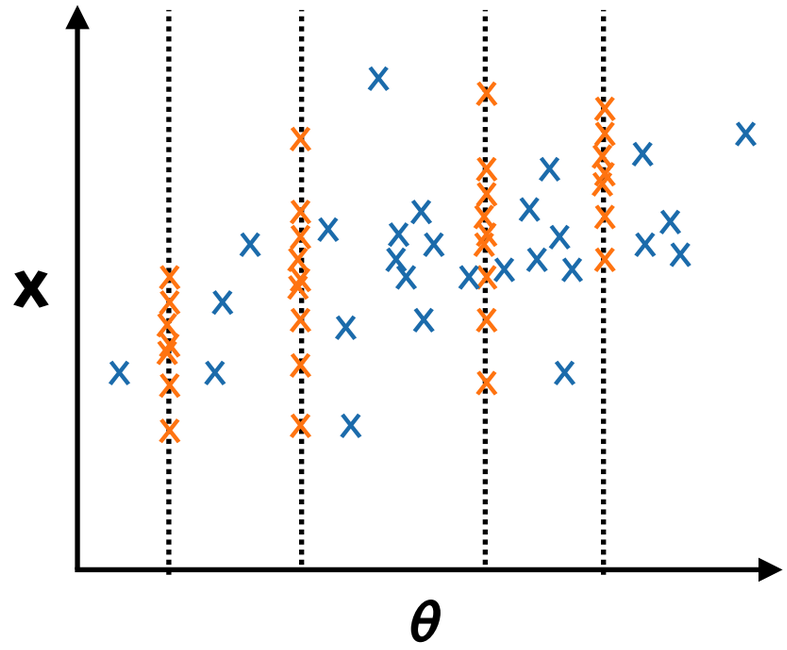
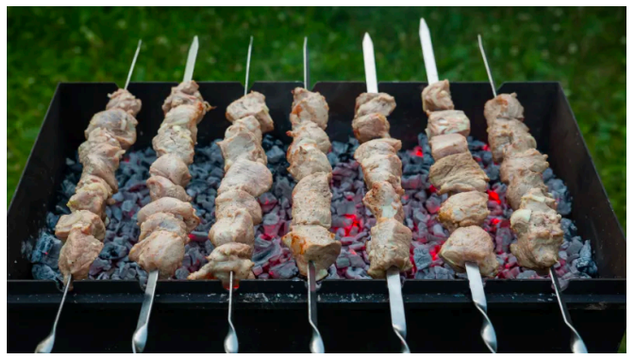
skewers versus cloud

How does the skewer set up of MassiveNuS impact NDE?

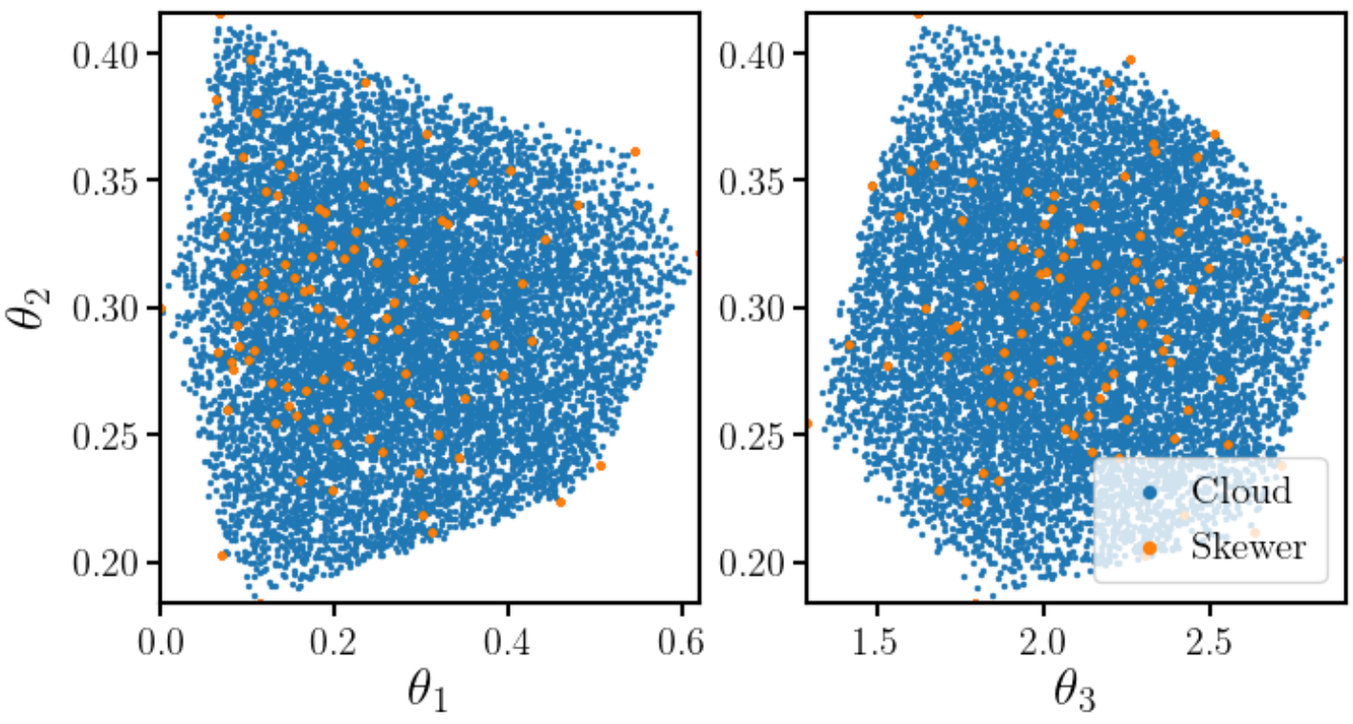




versus

skewers versus cloud

How does the skewer set up of MassiveNuS impact NDE?



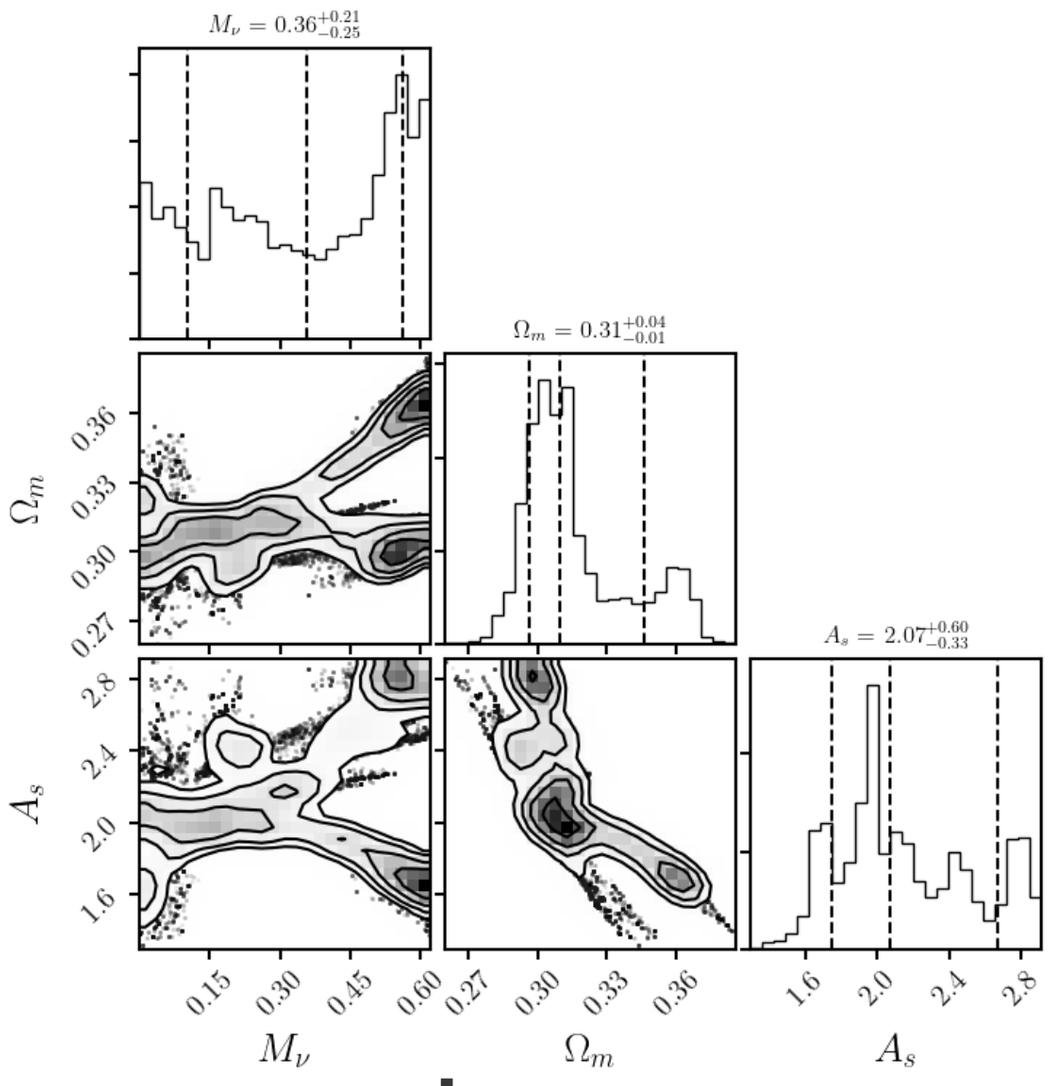
both cloud and skewer generated from GP emulator

skewers at same parameter values as MassiveNuS

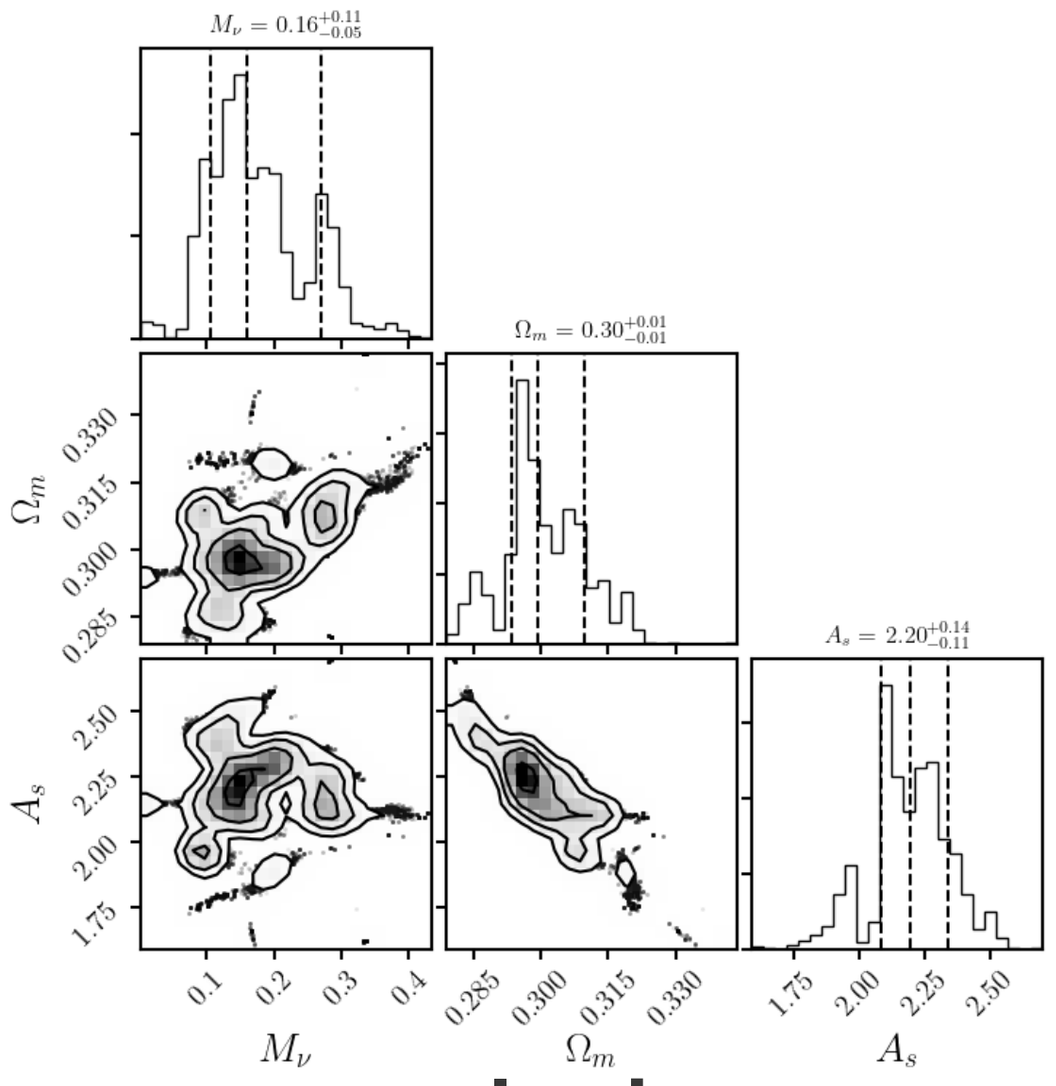
cloud within convex hull of skewers

skewers versus cloud

How does the skewer set up of MassiveNuS impact NDE?



skewers



cloud

skewers versus cloud

How does the skewer set up of MassiveNuS impact NDE?

```
# create an ensemble of ndes
ndata = scores_samp.shape[1]
ndes = [NDEs.ConditionalMaskedAutoregressiveFlow(n_parameters=3, n_data=ndata,
    n_hiddens=[50,50], n_mades=5, act_fun=tf.tanh, index=0)]
#        NDEs.MixtureDensityNetwork(n_parameters=3, n_data=ndata, n_components=1,
#            n_hidden=[30,30], activations=[tf.tanh, tf.tanh], index=1),
#        NDEs.MixtureDensityNetwork(n_parameters=3, n_data=ndata, n_components=2,
#            n_hidden=[30,30], activations=[tf.tanh, tf.tanh], index=2),
#        NDEs.MixtureDensityNetwork(n_parameters=3, n_data=ndata, n_components=3,
#            n_hidden=[30,30], activations=[tf.tanh, tf.tanh], index=3),
#        NDEs.MixtureDensityNetwork(n_parameters=3, n_data=ndata, n_components=4,
#            n_hidden=[30,30], activations=[tf.tanh, tf.tanh], index=4),
#        NDEs.MixtureDensityNetwork(n_parameters=3, n_data=ndata, n_components=5,
#            n_hidden=[30,30], activations=[tf.tanh, tf.tanh], index=5)]

# create the delfi object
DelfiEnsemble = DELFI.Delfi(scores_fid, prior, ndes,
        Finv=Finv,
        theta_fiducial=theta_fid,
        param_limits = [lower, upper],
        param_names = [r'M_\nu', '\Omega_m', 'A_s'],
        results_dir = './',
        input_normalization='fisher')
print('loading simulations')
DelfiEnsemble.load_simulations(scores_samp, theta_samp)
DelfiEnsemble.fisher_pretraining()
print('training ndes')
DelfiEnsemble.train_ndes()
print('sampling')
posterior_samples = DelfiEnsemble.emcee_sample()
pickle.dump(posterior_samples, open(os.path.join(datdir, 'posterior.%s.p' % sampling), 'wb'))
```

- Mixture density networks fail to train — NaN