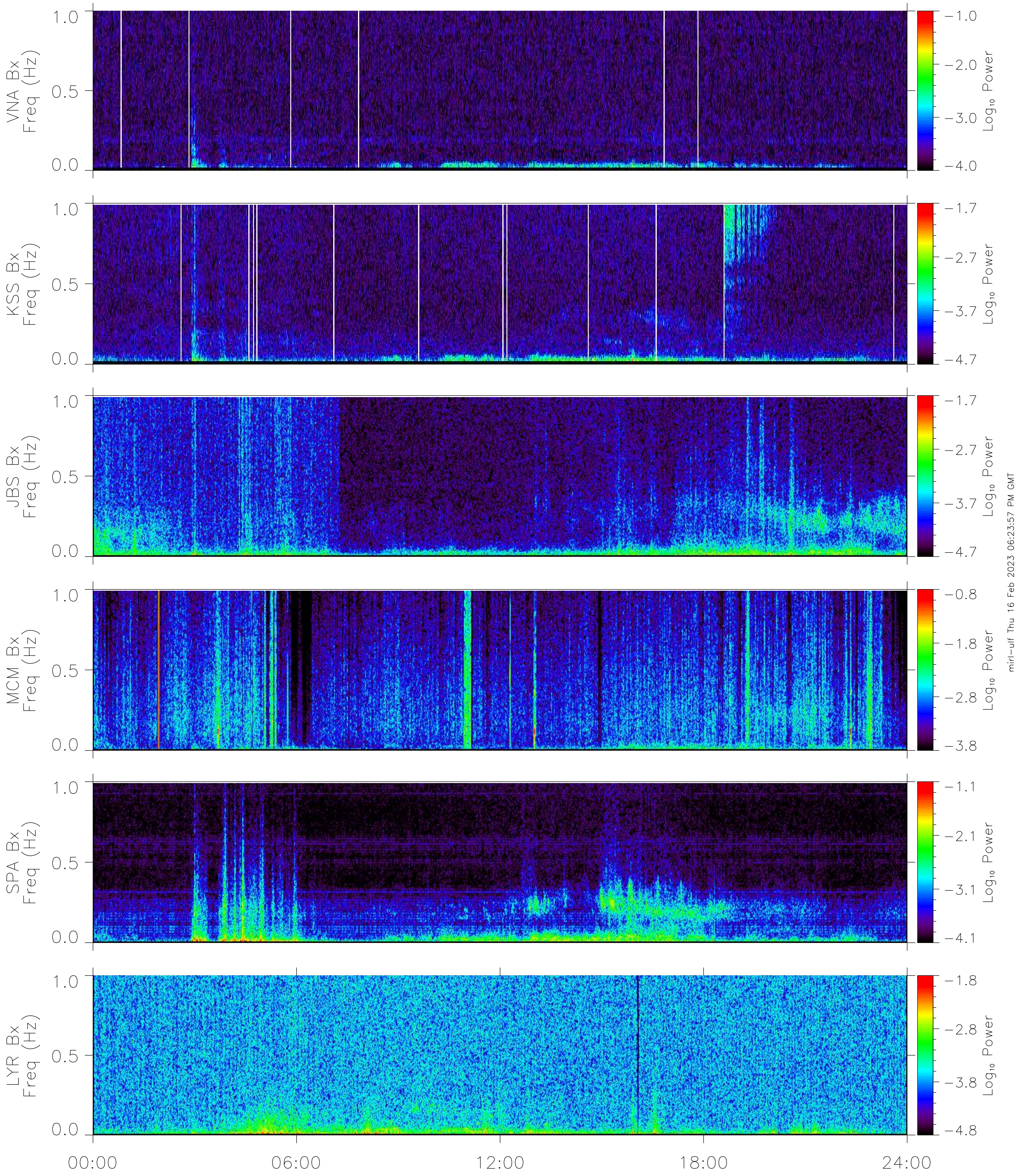20220105 x axis