EE 672   SATELLITE COMMUNICATIONS

HOME WORK # 2

1. The Virginia Tech earth station is located at 80.438^o W longitude and 37.229^o N latitude. Calculate its look angles and range to a geostationary satellite whose sub-satellite point is located at 121° W longitude.

2. Calculate the look angles from an earth station located at latitude 35° N and longitude 65° E to a geostationary satellite located at 19° E.

3. Find the look angles from the earth stations listed below to each of the geo-synchronous satellites listed. If a satellite is not visible from the earth station, then indicate so.

Earth stations:
a. Andover, Maine   44 deg 48 min 59 s North
                         70 deg 42 min 52 s West
b. Carnarvon, Australia 24 deg 52 min 13 s South
                         113 deg 42 min 13 s East

Satellites:
a. COMSTAR D-3 (U.S. domestic) 87° West
b. COMSTAR D-4 (U.S. domestic) 127.5^o West
c. BSE-2   (Japan) 110° East