$ML = (LAT1_{dd} + LAT2_{dd}) \div 2$

(3) Calculate the number of kilometers per degree latitude difference for the middle latitude calculated in paragraph (c)(2) as follows:

$KPD_{lat} = 111.13209 - 0.56605 \cos(2ML) + 0.00120 \cos(4ML)$

(4) Calculate the number of kilometers per degree longitude difference for the middle latitude calculated in paragraph (c)(2) as follows:

$KPD_{lon} = 111.41513 \cos(ML) - 0.09455 \cos(3ML) + 0.00012 \cos(5ML)$

(5) Calculate the North-South distance in kilometers as follows:

$NS = KPD_{lat}(LAT1_{dd} - LAT2_{dd})$

(6) Calculate the East-West distance in kilometers as follows:

$EW = KPD_{lon}(LON1_{dd} - LON2_{dd})$

(7) Calculate the distance between the two reference points by taking the square root of the sum of the squares of the East-West and North-South distances as follows:

$DIST = (NS^2 + EW^2)^{0.5}$

(8) Round the distance to the nearest kilometer.

(9) Terms used in this section are defined as follows:

(i) $LAT1_{dd}$ and $LON1_{dd}$ = the coordinates of the first reference point in degree-decimal format.

(ii) $LAT2_{dd}$ and $LON2_{dd}$ = the coordinates of the second reference point in degree-decimal format.

(iii) ML = the middle latitude in degree-decimal format.

(iv) KPD_{lat} = the number of kilometers per degree of latitude at a given middle latitude.

(v) KPD_{lon} = the number of kilometers per degree of longitude at a given middle latitude.

(vi) NS = the North-South distance in kilometers.

(vii) EW = the East-West distance in kilometers.

(viii) DIST = the distance between the two reference points, in kilometers.

[28 FR 13623, Dec. 14, 1963, as amended at 29 FR 14116, Oct. 14, 1964; 48 FR 29505, June 27, 1983; 52 FR 37788, Oct. 9, 1987; 52 FR 39920, Oct. 26, 1987; 54 FR 9806, Mar. 8, 1989; 57 FR 36020, Aug. 12, 1992; 58 FR 38537, July 19, 1993]

§ 73.209 Protection from interference.

(a) Permittees and licensees of FM broadcast stations are not protected from any interference which may be caused by the grant of a new station, or of authority to modify the facilities of an existing station, in accordance with the provisions of this subpart. However, they are protected from interference caused by Class D (secondary) noncommercial educational FM stations. See § 73.509.

(b) The nature and extent of the protection from interference afforded FM broadcast stations operating on Channels 221–300 is limited to that which results when assignments are made in accordance with the rules in this subpart.

(c) Permittees and licensees of FM stations are not protected from interference which may be caused by the grant of a new LPFM station or of authority to modify an existing LPFM station, except as provided in subpart G of this part.

[43 FR 39715, Sept. 6, 1978 and 48 FR 29505, June 27, 1983; 54 FR 9802, Mar. 8, 1989; 65 FR 7640, Feb. 15, 2000; 65 FR 67299, Nov. 9, 2000]

§ 73.210 Station classes.

(a) The rules applicable to a particular station, including minimum and maximum facilities requirements, are determined by its class. Possible class designations depend upon the zone in which the station's transmitter is located, or proposed to be located. The zones are defined in § 73.205. Allotted station classes are indicated in the Table of Allotments, § 73.202. Class A, B1 and B stations may be authorized in Zones I and I-A. Class A, C3, C2, C1, C0 and C stations may be authorized in Zone II.

(b) The power and antenna height requirements for each class are set forth in § 73.211. If a station has an ERP and an antenna HAAT such that it cannot be classified using the maximum limits and minimum requirements in § 73.211, its class shall be determined using the following procedure:

(1) Determine the reference distance of the station using the procedure in paragraph (b)(1)(i) of § 73.211. If this distance is less than or equal to 28 km, the station is Class A; otherwise,