Dear Adrian,

After giving the matter some thought, I have come up with this solution.

Lev Tables mentioned above for rotegrities calculates results assuming that the rotegrities are just straight lines of no height.

The table below starts with the unit chord length from Lev's work for geo_3_0. Other columns are my derivations that are straight forward.

The radius of 600 cm has been chosen as it represents an upper limit that most people set with a 3V class1 dome.

The second radius of 900 cm has been chosen as a tough 4v dome.

The last radius of 1050 has been chosen as it yields rotegrities that approach a length of 500cms, which I have set as an arbitrary maximum length of a bamboo pole. Nature produces many bamboo pole of far longer lengths but that is mostly in South America and are not common in India.

Rotegrity Table

Unit chord length	Unit Strut Length	600 cm radius	900 cm radius	1050 cm radius
A	B	C	D	E
0.132452677	0.397358031	238.4148187	357.622228	417.2259326
0.153814383	0.461443148	276.8658889	415.2988334	484.5153054
0.156398578	0.469195734	281.5174406	422.2761608	492.6555207
0.158619232	0.475857695	285.5146171	428.2719256	499.6505798

Since each strut encompasses 3 chord lengths, strut lengths in part B are derived by multiplying unit chord length by 3.

Strut Lengths in part C is for a 600 cm radius sphere.

Strut lengths in part D is for a 900 cm radius sphere.

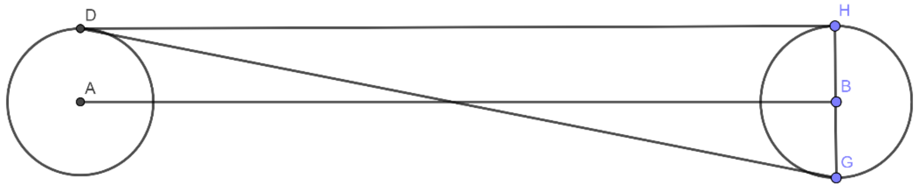
Strut lengths in part E is for a 1050 cm radius sphere.

Note that at this radius the struts have lengths below 500 cm, an arbitrary, upper limit that I have fixed for bamboo poles.

Adrian has pointed out that a Nexorade has struts/ nexors of finite diameter and that requires recalculations of unit chord lengths.

A simple application of the Pythagoras theorem will yield new lengths that we want.

Let the nexor has a length 3L and a diameter D, or length of 500 cm and diameter 5 cm.



In the above figure let AB represent the Rotegrity of Length L.

Let both circles represent the nexor of diameter D (HG in the figure) whose midpoint passes through the line AB.

Let the line DG represent the new nexor whose length we want to calculate.

In right-angle triangle. DHG,

DG ^2 = DH^2 + HG^2

=Rotegrity Length ^2 + Diameter ^2

We assume that the longest Rotegrity strut length in Col. B (here the last row value of 0.475857695) is equivalent of 500 cm. We calculate the other lengths on a proportionality basis.

New Chord lengths

Unit chord length	Unit Strut Length	Nexor length 500 cm	D^2	New Nexor ^2	Nexor Le
A	B	C	D	E	F
0.132452677	0.397358031	417.5177108	25	174346.0389	417.547
0.153814383	0.461443148	484.8541411	25	235108.5382	484.879
0.156398578	0.469195734	493.0000491	25	243074.0484	493.025
0.158619232	0.475857695	500	25	250025	500.024

Columns A and B are unchanged. In Col. C a nexor length of 500 cm represents a 1050.734 multiplier of Column B.

Col D represents the square of diameter of 5 cm that the nexor has.

Col E represents the results of adding the squares of Col c and Col D.

Col F represent the square root of Col E.

Col G represents scaling down Col F by the same scaling factor of 1050.734. This gives us the new Unit strut length.

In the table below the results are presented for nexors.

Nexoradre Table

Unit chord length	Unit Nexor Length	600 cm radius	900 cm radius	1050 cm radius
A	B	C	D	E

0.132462174	0.397386523	238.4319139	357.622228	417.2558494
0.153822561	0.461467683	276.8806101	415.2988334	484.5410676
0.156406621	0.469219864	281.5319185	422.2761608	492.6808573
0.158627162	0.475881487	285.5288924	428.2719256	499.6755617

What difference does the fact that the nexor has a diameter of 5 cm make to the spacing of intersections?

In dome of radius 1050 cm, for the rotegrity, the extreme points are 499.6505798 cm apart.

In dome of radius 1050 cm, for the nexor, the extreme points are 499.6755617 cm apart.

The difference is about 2 mm in a nexor of 500 cm where that 2 mm difference has to be further split among 3 holes.

Even if a nexor 10 cm diameter and 500 cm is used, there will be no meaningful difference.

Otherwise the maths is given above.

Ashok