

We know that each combination of three points lay on a line or form a triangle. Therefore, considering some points A, B, C , we know that:

$$|\sphericalangle ABC| + |\sphericalangle BCA| + |\sphericalangle CAB| = 180^\circ$$

$$|\sphericalangle CBA| + |\sphericalangle BAC| + |\sphericalangle ACB| = 180^\circ$$

Thus, the average these angles is 60° and when doing this for all combinations of three points we will get identical result. Consequently, the average number will be 60° because by doing this we cover all possible ordered triplets.