

**METHODS AND MODELS OF SURFACE FORMATION IN THE PROCESS OF THREE-DIMENSIONAL MODELING**

**Sultanboy Kazakbaevich Kurbanov\***

\*Teacher,

Tashkent University of Information Technologies named after Mukhammad al-Khwarizmi,  
Tashkent, UZBEKISTAN

**DOI: 10.5958/2249-7315.2022.00187.3**

---

**ABSTRACT**

*This article analyzes surface formation models in three-dimensional modeling. The processes of three-dimensional modeling are based on several methods and algorithms. Unique models are also used to model various processes and an object which is the capabilities of three-dimensional modeling technology is used in almost all areas of society.*

**KEYWORDS:** 3D Graphics, Surface, Spline, Analytical Model, Polygonal Model, Voxel Model, Bezier Spline, Linear Segments, Array, Vector, Polyline, Polygons, Polygonal Surfaces, Vertex, Corner, Memory Consumption, Computed Tomography, Computer Graphics Systems, Three-Dimensional Cartesian Coordinate System, Angle Indices.

---

**LITERATURE**

1. Zamyatin A. V., Sukhomlinova V. V. Algorithms for visualization of non-linear surfaces. News of higher educational institutions. North Caucasian region. Technical science 2010. - P.38-39.
2. Merkulova E., Adamov V., Kondratov L. Creation of algorithm for building three dimensional model based on spiral x-ray results. Collection of scientific papers SWorld. – Issue 1. 2015. - P.72-78.
3. Mukhamadiyev A. Sh., Turaev B. Z. 3D modeling and digital animation. Tutorial book. Tashkent 2017.
4. Rick Parent. Computer animation: Algorithms and techniques. – Morgan Kaufmann, 2012. – 542 p.
5. Mosin V.G. Mathematical basics of computer graphics. – Samara. 2005. – P 139-154.
6. Blinova T.A., Porev V.N. Computer graphics. – Published in Unior, 2005. – 520 p.
7. Grigoriev S. N., Loktev M. A., Tolok A. V. Construction of voxel models of geometric objects // Applied Informatics. Moscow 2013. – P. 50-55.
8. John F. Hughes, Andries van Dam, Morgan McGuire. Computer graphics: Principles and Practice. – Addison-Wesley Professional, 2013. – 1264 p.
9. Kurbanov S. K., Safibullayeva S. S. The process of extensive use of computer graphics in the diagnosis of renal function // International Conference on Information Science and Communications Technologies. Tashkent 2021.
10. Kurbanov S. K. Processing color images, brightness and color conversion // Innovation of sectors of the economy information and communication in development technology importance. Scientific conference. Tashkent 2021. – P. 218-219.