## SANSPRO V.5.30 Release Notes: 02-02-2024

## 1. New Features

Due to the use of new **Dynamic Array system**, SANSPRO V.5.30 is **very fast**. Typically **3-5 times faster** that previous version. This speed is helpful when conducting Time History Analysis which requires thousands of matrix operations.

- 1. Modify Fa, Fv, Ss, S1 for Near Fault Condition
- 2. Control Parameter for Performance Based Design (for future use)
- 3. Unfactored Loadcomb at separate table
- 4. Maximum Drift limit can be different in X,Z direction following shearwall condition
- 5. Coordinate offset in X,Z directions for inclined building and curved facade
- 6. Edit facility for multiple beam load type
- 7. Coordinate offset in Y directions generator for curved shape roof
- 8. Dome Roof shape Generator
- 9. Cone and Pyramid roof shape generator
- 10. Format Error in reading Foundation data file, fixed
- 11. More parallel processing to speed up graphics and calculation, faster for computer with multiple core and supporting AVX2 or AVX-512 (AMD Zen 4 CPU series 7000 or above, Intel Xeon, Intel Skylake i9/i7, Cascade Lake i9)
- 12. Glulam G-nn wood grade (PT Kayu Lapis Indonesia)
- 13. Virtual Memory is now obsolete, Dynamic Arrays are now used for all variables Large Memory will be needed, minimum of 8 GB recommended for 32-bit version and 16 to 64 GB for 64-bit version
- 14. Increase analysis speed from changing to Dynamic Arrays = 3.0 to 5.0 times
- 15. FEM Data export using Direct memory will give faster response
- 16. Generate shell elements from Slab Region using user defined element size
- 17. Faster Stress and Moment contour drawing for Shell element
- Ground Motion Dataset read, display and select (Export and Read) (Ground motion must be scaled or modified accordingly before used in Sanspro)
- 19. Linear Time History Analysis using selected Ground Motion
- 20. Faster Linear Time History Methods, Explicit : Constant Acceleration, Implicit : Newmark-Beta, Wilson-Theta or Hilber-Alpha Method
- 21. Soil Data, Soil Profile and Automatic Foundation design using closest Soil Data
- 22. Preliminary Prestressed Beam Design
- 23. Pile Foundation design using axial and lateral load capacity for gravity, moderate and extreme earthquake conditions

## 2. New License and Upgrade Price

New Personal License	: Rp. 7,000,000,-
New Corporate License (2 users)	: Rp. 12,000,000,-
Upgrade Price	: Rp. 1,000,000,- to Rp. 3,500,000 depends on version

## 3. Contact Info

Ms. Devy Valianty (ESRC) WA: 0838-2084-2452 (Office hours)

# Earthquake Ground Motion Data

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# Time History Analysis – Direct Integration Method (LTHA)

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### **Time History Analysis Output Post-Processing**



#### Semi-rigid floor slab generator using Shell element

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#### **Dome Generator**

SANSPRO V.5.30 - WITH DRAWING MODULE - (C) Nathan Madutujuh, ESRC, 1989-2022

File View Floor Param MdlGen Site BUILDING BRIDGE CFSB BPanel MatProp Prelim Mesh Object Modify Shrwal Delete Load Earthquake Analysis Design DsgTool Graph Report Nonlinear Help TutorMk Research Quit



## **Dome Generator**

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## Non-Vertical Buildings Facade (Inclined or curved)



## **Glulam Wood Design Data**

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#### Soil Data and Soil Profile

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#### **Pile Foundation Design**

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