ABAQUS用户定义单元UEL与VUEL从入门到放弃系列1

ABAQUS User-Defined Element UEL and VUEL from Beginner to Giving Up Series 1

借风一尺 Borrowing a Foot of Wind

更新于2021年3月19日 20:42 Updated on March 19, 2021, 8:42 PM

浏览：3576 Views: 3576 评论：17 Comments: 17 收藏：22 Favorited: 22

大家好，我是借风一尺，一个终极懒癌患者。 Hello everyone, I am Jiefeng Yizhi, a chronic ultimate laziness patient.

……说完这句话其实已经不想再码字了。 ……After saying this sentence, I actually didn't want to type anymore.

好的，直入主题，速战速决。 Good, let's get straight to the point and finish quickly.

来技术邻其实已经很久了，也目睹了技术邻这两年飞一般的发展速度，好像突然火起来了哈哈。最初来技术邻，讲实话其实就是来学UEL的，后来发现没帖子，然后就各种找论坛，simweABAQUS版块的帖子二零零几年的帖子都被我挖干净了，做UEL的人确实比做UMAT的少多了，但技术邻这个平台依旧让我受益良多，诸如蓝牙老师，isolver团队snowwave02等大佬，他们的分享，甚至很多是免费分享确实高屋建瓴，知识的学习必是知其所以然，我想只有这样的学术氛围越来越重，这样乐于分享的大佬越来越多，中国的自研工业软件才能走向世界，我们的工业4.0才有可能实现。

I have been on Technical Neighbor for a long time, and I have witnessed the rapid development of Technical Neighbor over the past two years, as if it has suddenly become popular, hahaha. Initially, I came to Technical Neighbor to learn UEL, but later I found that there were no posts, so I searched various forums, and I have combed through the posts in the simweABAQUS section from the year 2000, and there are indeed fewer people doing UEL than those doing UMAT, but this platform of Technical Neighbor has still benefited me a lot. People like Bluetooth teacher, isolver team snowwave02, and other big shots, their sharing, even many of which are free, are indeed high-level. The learning of knowledge must be to understand the reasons behind it. I believe that only when such an academic atmosphere becomes stronger and more big shots like these are willing to share, can China's independently developed industrial software go global, and our Industrial 4.0 can be realized.

学于此，也该传于此，作为一只科研狗，我想我比谁都清楚什么叫从“入门”到“放弃”，未知的知识就是这样，不懂的时候它比金子都贵，等你学会了它好像又像水一样普通，亦如水一样珍贵。

Learning here, I should also pass on my knowledge here. As a research dog, I think I know more than anyone else what it means to go from "beginning" to "giving up." Unknown knowledge is like gold to those who don't understand it, but once you learn it, it seems as ordinary as water, yet as precious as water.

之后也会逐渐在技术邻更一些帖子，可能也会有视频吧，内容大概会围绕有限元理论，用户子程序开发，ABAQUS python开发，XFEM，lamb波的SHM等，因为不知道想学UEL\VUEL的人群多大，也不知道大家都想

了解些什么，不知道应该从何说起，可能有些想学UEL的小白基础很差连有限元理论都没学全，再加上我确实是个懒癌晚期，其实很多东西都做好了，懒的发，也希望能治疗一下自己的懒癌吧。

I will also gradually post some articles on Technical Neighbor, and may also have some videos. The content will mainly be about finite element theory, user subroutine development, ABAQUS Python development, XFEM, Lamb wave SHM, etc. Because I don't know how many people want to learn UEL\VUEL, nor do I know what everyone wants to know, and I don't know where to start. Perhaps some beginners in UEL have a very poor foundation and haven't even learned the whole finite element theory. In addition, I am indeed in the late stage of laziness, and I have actually prepared a lot of things, but I am too lazy to post them. I also hope to cure my laziness.

今天的正事，发两个UEL的Fortran程序和对应的inp算例，我发现好像很多人不会写UEL的inp，下次有机会给你们讲讲吧（懒癌警告）。

Today's task, I'm posting two UEL Fortran programs and the corresponding inp examples. I found that many people seem to struggle with writing inp for UEL, and I'll talk about it with you next time if I get the chance (lazy warning).

一个是平面应力\平面应变单元，2d4node程序

One is a 2D plane stress/plane strain element, a 2d4node program.

一个是3D stress单元，C3D8程序 The other is a 3D stress element, a C3D8 program.

UEL 2d4node+C3D8