

# HNU-EBL (V1.0) License Agreement

**Party A:** Hunan University

**Party B:** \_\_\_\_\_

HNU-EBL (V1.0) is an electronic design automation (EDA) software for electron beam lithography (EBL) simulation and optimization. HNU-EBL is developed by Professor Jie Liu's team at Hunan University (HNU). HNU-EBL(V1.0) is protected by the following intellectual property rights of Party A:

Software copyright and Patent	No.	Data
#1 刘杰 et.al, 电子束光刻仿真计算 EDA 软件 V2.0	10310643	09/15/2022
#2 刘杰 et.al, 电子束光刻仿真计算 EDA 软件 V1.0	7925839	05/20/2021
#3 刘杰 et.al, GDSII 文件可视化软件 V1.0	7815125	05/21/2021
#4 刘杰 et.al, 基于 SaaS 模式的电子束曝光仿真与修正软件 V1.0	6099814	06/20/2020
#5 刘杰 et.al, 电子束光刻邻近效应修正软件 V1.0	5471220	01/10/2020
#6 刘杰 et.al, 一种基于二维快速傅里叶变换的电子束曝光邻近效应修正方法	CN112987514A	06/18/2021
#7 刘杰 et.al, 大规模电子束曝光版图的高精度邻近效应快速修正方法	CN111965936A	11/20/2020
#8 刘杰 et.al, 一种基于神经网络的电子束邻近效应修正方法	CN111538213B	04/27/2020
#9 刘杰 et.al, 一种电子束光刻邻近效应修正版图压缩方法	202111316982.1	11/09/2021
#10 刘杰 et.al, 一种基于快速多极子方法的电子束光刻邻近效应校正版图能量沉积计算方法	202210044985.2	01/15/2022
#11 刘杰 et.al, 一种基于边缘迭代的电子束光刻剂量形状校正方法	202210381947.6	04/13/2022
#12 刘杰 et.al, 一种基于遗传算法的电子束光刻能量沉积分布拟和方法	202210629240.2	06/06/2022
#13 刘杰 et.al, 一种大规模并行电子束光刻邻近效应修正版图能量沉积计算方法	202211207440.5	09/30/2022
#14 刘杰 et.al, 一种提升掩模曝光效率的掩模晶圆协同优化方法	202211269637.1	10/18/2022
#15 刘杰 et.al, 一种面向曼哈顿版图电子束光刻能量沉积密度分布计算的高效方法	202311556188.3	11/21/2023
#16 刘杰 et.al, 一种求解电子束光刻温度场的高速计算方法	202311556470.1	11/21/2023
#17 刘杰 et.al, 一种面向电子束光刻荷电效应计算的高效方法	202311566270.4	11/22/2023

Party A licenses of HNU-EBL(V1.0) to Party B. Both parties agree:

- (1) Party A offers a perpetual license of the current version(V1.0) of HNU-EBL, free of charge, to party B. Party A is not responsible for the results of HNU-EBL generated by Party B.
- (2) Party B can only use HNU-EBL within the team. Without the written permission of Party A, Party B shall not sell or copy HNU-EBL outside Party B's team. Otherwise, Party B shall compensate Party A for related economic losses.
- (3) When Party B's teammembers (co-)author papers, patents and other publications based on the results generated using HNU-EBL, Party A's publications (e.g., papers, patents, etc.) should be listed as references on the HNU-EBL link: <http://www.ebeam.com.cn>.

<b>Party A's Team Leader: Jie Liu</b> (Professor) Signature of Party A's team leader:  Official email: <a href="mailto:jie_liu@hnu.edu.cn">jie_liu@hnu.edu.cn</a> <a href="mailto:support@ebeam.com.cn">support@ebeam.com.cn</a>	<b>Party B's Team Leader: _____</b> ( ) Signature of Party A's team leader:  Official email:
<b>Name of Party A:</b> College of Semiconductors (College of Integrated Circuits), Hunan University  <b>Seal of Party A:</b>  Date: _____	<b>Name of Party B:</b>  <b>Seal of Party B:</b>  Date: _____