

# PLEP-0004 – Licensing of PlasmaPy Repositories

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## Summary

The purpose of this PlasmaPy Enhancement Proposal (PLEP) is to clarify the licensing practices of PlasmaPy repositories. Source code files, code snippets, and associated documentation shall in general be covered by a BSD 3-clause license with an explicit patent grant. Other creative works shall in general be covered by the [Creative Commons Attribution 4.0 International \(CC BY 4.0\) license](#). If back and forth collaboration with a body of work released under a copyleft license [e.g., the [Creative Commons Attribution-ShareAlike \(CC BY-SA 4.0\) license](#)] is desirable, then a PlasmaPy repository may be licensed under one or more compatible copyleft licenses. When PlasmaPy adopts or incorporates an existing body of creative works released under an [Open Source Initiative \(OSI\) approved license](#) or a [Creative Commons license](#), then that body of work and its derivatives may continue to use that license. PlasmaPy’s Coordinating Committee may make exceptions to this policy when there are extenuating circumstances.

## Background information

PlasmaPy began development under the permissive [BSD 3-clause license](#). The primary advantage of this license is its [compatibility](#) with other licenses. Code released under a BSD license may be used by or incorporated into software covered by most [permissive](#), [copyleft](#),

and [proprietary](#) licenses. The choice of this license allows back and forth sharing of code with projects such as [Astropy](#) and [SunPy](#).

Most modern software licenses include language that protects against software patents. The [BSD 3-clause license](#) does not explicitly include such language. This oversight leaves potential for a contributor to patent their contribution, and then later prohibit use of their contribution by the PlasmaPy community. Plasma physics has a variety of commercial applications, so it is important to provide users with protections against software patents. On 2017 October 19, the patent grant from the [BSD+Patent license](#) was [added to PlasmaPy's license](#) to give users the right to use contributions even if a contributor later patents their contribution. This clause covers all contributions made past this date, and the [contributions made by people who have agreed to the clause](#). The patent clause grants users more rights and protections than the standard BSD 3-clause license.

Some PlasmaPy repositories contain creative works other than source code files, code snippets, and associated documentation. [Creative Commons licenses](#) are much more appropriate than open source licenses to cover these other creative works. Works released under the [CC BY 4.0](#) license may be shared and adapted as long as attribution is provided. Works released under the copyleft [CC BY-SA 3.0](#) or [CC BY-SA 4.0](#) licenses may be shared and adapted as long as attribution is provided and derived works are covered by either the same license or a compatible license. The [GNU Free Documentation License \(GFDL\)](#) is another commonly used copyleft license.

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## PlasmaPy licensing policy

### Licensing of software repositories

Software repositories created by PlasmaPy shall use the following BSD 3-clause license with the explicit patent grant from the OSI-approved [BSD+Patent license](#). This license may be used for documentation internal to the project (e.g., documentation contained within a `docs` subdirectory).

Copyright (c) 2017-2525, PlasmaPy Developers.

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- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
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## Licensing of creative works other than code and multi-licensing

Creative works besides source code files, code snippets, and documentation contained within a `docs` directory shall by default be covered by the [CC BY 4.0](#) license.

If significant collaboration with an existing body of creative work covered by a copyleft license is desired, then a PlasmaPy repository may be covered by one or more copyleft licenses that provide for two-way compatibility. In order for a work to be fully compatible with Wikipedia, for example, it must be both [CC BY-SA 3.0](#) and [GFDL](#) compatible.

If a repository contains both code and creative content besides code, then the license file should specify that source code files and code snippets are released under a [BSD 3-clause license](#) (that is included in the file) and that all other creative content is released under an appropriate Creative Commons license (which may be linked to from the license file). As an example, LaTeX code will be covered under the [BSD 3-clause license](#), while the document created by compiling that code will be covered under a Creative Commons license.

Licenses that do not allow derivative works or commercial use shall not be used by PlasmaPy except under extraordinary circumstances.

The following is sample language for a repository that contains code and other creative content:

Source code files and code snippets included in this project are licensed under the BSD 3-clause license with an added patent grant. All other content in this project (including content compiled directly from source code and code snippets) is licensed under the [Creative Commons Attribution 4.0 International \(CC BY 4.0\)](#) license.

The following is sample language for a repository that contains code as well as creative content besides code and that allows two-way [compatibility with Wikipedia](#):

Source code files and code snippets included in this project are licensed under a BSD 3-clause license with a patent grant.

Unless otherwise indicated, all other creative content in this work (including content produced directly from unmodified source code and code snippets) is released under the [Creative Commons Attribution-ShareAlike 4.0 International \(CC BY-SA 4.0\)](#) license. Original contributions (e.g., contributions that are not derived from another work) to this repository may also be shared, adapted, and redistributed under the [Creative Commons Attribution-ShareAlike 3.0 Unported \(CC BY-SA 3.0\)](#) license and/or the [GNU Free Documentation License \(GFDL\)](#).

## Copyright notices

A copyright notice must be included in every repository. The phrase “All rights reserved” no longer has any legal significance and should not be included.

## Exceptions

The Coordinating Committee may adopt different licenses for different repositories when appropriate, as long as the licenses are on the list of [OSI approved open source licenses](#) (or at the very least unambiguously meet the [definition of open source](#) as described by OSI). Existing open source repositories that are incorporated into PlasmaPy may continue to be licensed under its original license.

## Issues, Pull Requests, and Branches

- <https://github.com/PlasmaPy/PlasmaPy/pull/114>
- <https://github.com/PlasmaPy/PlasmaPy-Tutorials/issues/1>
- <https://github.com/PlasmaPy/Plasma-Education/issues/3>
- <https://github.com/PlasmaPy/PlasmaPy-Enhancement-Proposals/issues/3>

## Backward Compatibility

Versions of PlasmaPy prior to 2017 October 17 will continue to be available under the [original BSD 3-clause license](#).

## Alternatives

### Software licensing

- PlasmaPy could use the [BSD 3-clause license](#) without the patent grant; however this would remove explicit protections against software patents.
- Another alternative would be to use the [Apache License, Version 2.0](#) which includes specific protections against patents. However, [the naming of the Apache license constitutes cultural appropriation](#) which violates the first bullet point in PlasmaPy’s code of conduct on “using welcoming and inclusive language.”

- PlasmaPy software could be licensed under the copyleft [GNU General Purpose License 3.0 \(GPLv3\)](#) or weaker copyleft [GNU Lesser General Purpose License 3.0 \(LGPLv3\)](#). These licenses would require that derivative works be covered by the same license when being redistributed. These restrictions would prevent or restrict use by proprietary packages, but would ensure that derivative works continue to be open. A major disadvantage of these licenses are that they are not two-way compatible with permissive open source licenses, so they would not allow back and forth code sharing with permissively licensed packages. The main disadvantage of not choosing the GPLv3 or LGPLv3 is that code released under those licenses will not be able to be incorporated into a package under a different license.
- Additional alternatives include any of the other [open source licenses approved by OSI](#).

## Licensing of creative works

- Alternatives include any of the other [Creative Commons licenses](#) or the [GFDL](#).
  - The [CC0 license](#) would relinquish the copyright of a creative work to the extent allowed by law so that the work is effectively in the public domain. This license would remove the attribution requirement contained within the CC BY and CC BY-SA licenses. However, attribution is beneficial to the scientific process because it allows recipients to better understand the origin of an idea or data which in turn helps reproducibility.
  - Creative Commons licenses that prohibit derivative and/or commercial reuse run contrary to the principles associated with the [Free/Libre and Open Source Software \(FLOSS\)](#) movement.

## Decision Rationale

The BSD+Patent license is permissive and contains clear protections against software patents. This license is two-way compatible with code from Astropy and SunPy. Code under this license or a CC BY license may be relicensed under most other licenses. A CC BY-SA license may be used to allow greater back and forth collaboration with other works under the same license. This policy provides additional flexibility to the Coordinating Committee to deal with extenuating circumstances.