

第7章 前置詞 (Prepositions)

名詞 (又は代名詞、動名詞) の前に置く

§ 7-1 前にある語句との結合

どの前置詞を選ぶかは、後に続く名詞よりもむしろ前にある名詞、動詞、形容詞などによって決まる場合が多い。

(名詞) + (前置詞)

evidence [U] for (of) A

a reason for A

an expression for this interaction

a change in A

the difference between A of B₁ and B₂

an increase (a decrease) in A with B

to play a role (of B) in A

an experiment on A

the data on A

by the analogy of A

an analogy between A and B

the effect of A on B

influence [U] of A on B

B is under the influence of A

an answer to this problem

research in nuclear physics (分野)

research on nuclear fission (限定対象)

(Exercise 7-1)

1. A change () the potential has a remarkable effect () the transmission coefficient.
2. The evidence () superconductivity is as follows.
3. A structural phase transition was the reason () the anomaly () the resistivity.
4. A criterion () the theory is obtained () comparing the dipole moment observed () that calculated.
5. Impurities play an important role () increasing metal hardness.
6. Ohm's law refers () the linear increase () the voltage drop () a resistor () current.
7. New results () neutron scattering experiments () the spin structure () this material has recently been reported.
8. S is equal () the summation () i equals 1 to N () x_i .
9. The difference () the masses () a neutron and a proton is greater () that of an electron.

(動詞) + (前置詞)

to plot y against x

to account for A 原因を説明する (to take B into account 考慮に入れる)

to substitute A for B (substitution of A for/into B)

to replace B with/by A

be calculated from A

be estimated from A

to result in A

to succeed in A

to consist of A

to focus on A

to depend on A

(dependent on A, independent of A, dependence of B on A)

to apply A to B: 適用する (to apply for A: 申し込む)

A is attributed to B (We attribute A to B, be attributable to B)

A is ascribed to B

to relate to B, to relate A to (with) B

to correspond to A

be filled with A

be equipped with A

be compared with/to A (be comparable with/to A)

to begin with A

to start with A

take account (考慮に入れる) の用法

1. to take account of this fact

2. to take this fact into account

3. to take into account of the fact that (目的語が長い場合)

(Exercise 7-2)

1. X is very large compared () Y.
2. The outer electrode is equipped () a wire mesh.
3. The chamber was filled () helium.
4. The next session will start () 1 p.m. () a plenary lecture.
5. Penetration depth of the ion was calculated () the mean of these values.
6. In Fig. 4 the observed values of electron yield are plotted () the wavelength of stimulating light.
7. The density of states was estimated () the specific heat.
8. We used a solvent consisting () 60 wt. % toluene and 40 wt.% ethanol.
9. This resistivity minimum is attributed () the Kondo effect.
10. The feature corresponding () the energy gap has always been observed.

(形容詞) + (前置詞)

be different from A

(cf. to differ from A, a difference between A₁ and A₂)

be full of A

be characteristic of A (cf. a characteristic [C], pl. characteristics)

be similar to A

be the same as A

be identical to/with A

be equal to A

be proportional to A

be applicable to A

be consistent with A

be compatible with A

(Exercise 7-3)

1. Our approach () this problem is entirely different () all the previous attempts.
2. The current is independent () the voltage.
3. We used an apparatus similar () that in our previous experiment.
4. Equation 1 is applicable () the relativistic phenomena.
5. Our treatment is consistent () thermodynamics.
6. The period-doubling phenomenon is characteristic () non-linear dynamics.

§ 7-2 後続く名詞との結合

at a temperature
at a frequency
at the rate of *R*
for brevity
in a magnetic field
in vacuum
in detail
in principle
in /over a range
in a region
in the right/opposite direction
in this way
in this manner
in this process
in the vicinity of *A*
on the right/left
with a microscope (道具)
with a standard personal computer
by computer
by this method
by this procedure
by analogy, by the analogy of *A*
under these conditions
under the influence of *A*

(Exercise 7-4)

1. The experiment was carried out () the following conditions.
2. This will be explained () detail () a separate paper.
3. The resolution will be enhanced () up to 50% () this method.
4. The S/N ratio was improved () more than a factor of five () this new receiver.
5. We have succeeded () stabilizing the reaction pressure () this way.
6. Mercury remains () the liquid state even () room temperature.
7. The scattering rate is evaluated () the method of least squares.
8. The Eudora software was designed by Steven Dorner () the University of Illinois in 1988.
9. The crystal was irradiated () X-ray () two hours.

Sattinger 's law:

It works better if you plug it in.

Horner's five-thumb postulate:

Experience varies directly with equipment ruined.

§ 7-3 前置詞句

いくつかの語を結合して全体として前置詞のはたらき

as well as A
along with A
in addition to A
in accordance with A
in agreement with A
in spite of A (= despite A)
instead of A
in terms of A
on the basis of A (= based on A)
with respect to A

by a factor of N
on the order of 10^{-3} eV

前置詞句は文を冗長にしがちである.

by means of ... → by ...
because of the fact that ... → because ...
for the purpose of ... → for ...
in the case of ... → if ...
by the use of ... → by using ...

(Exercise 7-5) 括弧の中にふさわしい前置詞句を書き入れよ。

1. The rotation of E equals minus the partial derivative of B () t .
2. () the parameter α , the modified Hamilton's principle can be written by Eq. 1.
3. () his theory, Dirac was led to the conclusion that to each "normal particle," there must exist an "anti-particle" with exactly the same physical properties but the opposite electric charge.
4. The size of an atom is () 10^{-10} m.
5. The signal-to-noise ratio has been improved () five with this new detection technique.

{on the basis of, based on, by a factor of,
in terms of, with respect to, on the order of}