Thesis Glossary

Steven

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1 Introduction

from the textbook	from the articles
① p.34 Explaining significance **fundamental issue** Explaining the mechanisms of high-temperature superconductors has been a *fundamental issue* after BCS theory proposed in 20th century.	③ Problem **ambiguous** For a wave packet with a spread in wavenumber k, some *ambiguity* arises in the values of the phase and group velocities because of the spread in k, but, for narrow packets in k space, the uncertainties in these values are small (Peters, 1988).
② p.35 Verbs to present current research **prove** This paper *proves* the Riemann-Zeta hypothesis.	② Verbs used to present previous research **indicate** With the increased current, investigations *indicated* that wear is associated with the intensification of the abrasive properties of the metal counterbody surface (Yi, Zhang, & Xu, 2005).
③ p.37 Problem **computationally demanding, an alternative approach** Since the simulation methods in the previous researches are *computationally demanding*, *an alternative approach* was needed for this paper.	④ The present work **propose, discuss, this paper** *This paper proposes* and *discusses* a definition of internal energy (Besson, 2001).

2 Methodology

from the textbook	from the articles

① p.77 Provide a general overview of the methods **all of, experiments, be carried out** *All of* the *experiments were carried out* at room temperature.	① Give the source of materials used **be provided by** The multiwalled carbon nanotubes used in this work *were provided by* Shenzhen Nanotech Port Co. Ltd (Yi et al., 2005).
③ p.80 Provide specific details about methods **be measured** The maximum and the minimum length of the brush *were measured*.	③ Provide specific details about method ④ Justify choices made **in order to, improve, treat** *In order to* increase the surface roughness to *improve* the interfacial strength and the dispersion, carbon nanotubes were first subjected to an oxidation *treatment* in the mixture of nitric acid and vitriolic (Yi et al., 2005).
④ p.82 Justify choices made **in an attempt to** This experimental conditions were chosen *in an attempt to* obtain the friction coefficient value as close as possible to the actual condition.	② Supply essential background information **be embedded** A flexible pure copper wire of 0.5 mm^2 cross-sectional area *was embedded* in each brush at 5 mm from the brush's sliding surface to give the average contact voltage drop of brush. (Yi et al., 2005).

3 Results

from the textbook	from the articles
③ p.139 Invitation to view results **as illustrated by Fig. 1** *As illustrated by Fig. 1*, black stripes were observed on the brush along the arc of the commutator.	③ Invitations to view results **from Fig. 1 it can be seen that** *From Fig.4 we can see that* the friction coefficients decreased from initial values of 0.48 to about 0.25-0.28 (without current) or 0.34-0.37 (with current) (Yi et al., 2005).
④ p.140 Specific results in detail **decrease, noticeably** The wear rate *decreased noticeably* as wear progresses and the value of α increases.	④ Specific results in detail **important** The "thermal shock" arising as a result of Joule heat release on the contact spot was another *important* factor leading to intensification of the wear of the brush under the action of an electric current. (Yi et al., 2005).

⑥ p.144 Problems with results **not always accurate, hard to control** The measurements of the length were *not always accurate*, since the bottom face of the brush was not always horizontal and this effect was *hard to control*.	⑤ Comparisons with other results **confirm** As already found by Prasad et al. and *confirmed* here, both solutions are characterized by high contact pressure at the leading edge dropping to zero at the trailing edge, suggesting a lift (separation) at that corner (Benabdallah & Olender, 2006).

4 Discussion

from the textbook	from the articles
④ p.188 Mapping **consistent with** The nearly linear wear behavior of the brush was *consistent with* the previous researches.	③ Refining the implications **indicate** The test results *indicate* an initial high wear-rate, which gradually reduces (Tavoosi, Ziaei-Rad, Karimzadeh, & Akbarzadeh, 2015).
⑤ p.190 Contribution **improve** This paper *improves* the way to predict wear behavior of the brush by considering the structure of the motor.	⑥ Current and future research **future works may** It is suggested that *future works may* explore the idea of using the contact modulus, a composite value obtained by combining elastic moduli and poissons ratios of both material in contact, rather then the approach of this paper (Benabdallah & Olender, 2006).
⑦ p.193 Applications **utilize** The result of the paper can be *utilized* for predicting wear life of the brush of the DC motor.	④ Mapping **in agreement with** The results for the specific problems considered here are *in full agreement with* the general predictions (Tsai, 1971).

References

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