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IMAGE RECONSTRUCTION TECHNIQUE FOR APPLICATION
IN X-RAY RADIOGRAPHY



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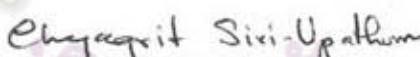
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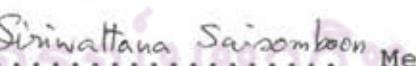
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พิมพ์ด้นฉบับนากัดบ่อวิทยานิพนธ์ภาคในกรอบสีเข็บน้ำเพื่อเบงແຜ່ນເດືອນ

ອາກົາຕ ຕັກສົນທິຮະມ : ເຫັນມີການລຶບພາບກາງເພື່ອປະບຸກຕິກົບຊານດໍາບກາງຕົວຮົງສີເຄົກ
(IMAGE RECONSTRUCTION TECHNIQUE FOR APPLICATION IN X-RAY RADIOGRAPHY)
ອ.ກົມປະກາ : ຊ.ຕ.ຕ.ຮ.ຮຍຢັບ ສູນມິຕຣ, 79 ພນ້າ

ກາຮົງສິຍຄຮັງຜົມຮົກຖຸປະສົງຄົກສັກເຫຼືອສຶກຂ່າ ເຫັນມີການລຶບພາບເພື່ອປະບຸກຕິກົບຊານດໍາບກາງຕົວຮົງ
ຮົງສີເຄົກ ຈາກການສຶກທຳໄດ້ກ່າວກ່າວທີ່ມາໂປຣແກຣມຄອມຕົວເຕົອຣ ໂຄບໃໝ່ກາມພອຣແກຣນ-4 ນສັກການໃໝ່
ໃນການສົ່ງວິວທີ່ ເຫັນມີການລຶບພາບໃໝ່ເຄົອງຄອມຕົວເຕົອຣ Shepp-Logan ການຟ່ອນາລະ
ປັບປຸງໂປຣແກຣມກໍາໂຕບໃໝ່ເຄົ່ອງຄອມຕົວເຕົອຣ NEC-300 ແລະຍົມມຸລສົມມຸລ ຈາກໜັນໄດ້ກົດອອງໃໝ່ຍົມມຸລ
ຈົດຂອງອາຈານບົງຮຽງກໍ ສົ່ງປະຕິບັດຖຸລ ນອກຈາກໜັນຢັງໄດ້ກົດອອງປະບຸກຕິໃໝ່ກົບກາຮົງສິຍຄຮັງສີເຄົກ
ໂຄບໃໝ່ຮົກຖຸປະນາຄາ ທີ່ກາວີຢ່າດວເຄສີບຮ່າງເກົນໄລຍ ມາພົກໄດ້ຈາກກາຮົງທີ່ກົດອອງກົດໃຫ້ສົກປົງໃນເກຫດ
ທີ່ບອນຮັບໄດ້



ສູນຍົວທະວິທະຍາ

ຈຸພາລັງກຽມມາຮວຍ

ກາລືວ.....
ສາທາລະນະລັດ.....
ສາທາລະນະລັດ.....
ປັດຈຸບັນ.....

ລາບນີ້ອໍ້ອນນິດຕິ.....
ລາບນີ້ອໍ້ອນນິດຕິ.....

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ລາບນີ້ອໍ້ອນນິດຕິ.....

พิมพ์ต้นฉบับนบทด้วยวิทยานิพนธ์ภายในกรอบอีเมจที่เพียงแผ่นเดียว

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The main objective of this thesis was to study the technique of image reconstruction for application in x-ray radiography. A computer program, written in FORTRAN IV, was developed for this purpose. The algorithm used was based on filtered-back projection technique where Shepp-Logan filter was used. The program consists of 1 main program and 3 subprograms. The program was tested and improved on NEC-300 computer using simulated data. Data from experiments by Jewpraditkul, V., et al were used to test the program. Later on, the program was applied to x-ray radiography by using data obtained by simple experiments, using a symmetrical object, made at the Department of Nuclear Technology. The images obtained were quite acceptable, in both cases, in terms of resolution.



ภาควิชา ... วิจัยและนวัตกรรม
สาขาวิชา ... วิจัยและนวัตกรรม
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NOTATION

Each notation is defined where it first appears in the text. For convenience of the reference the more important are listed below.

x, y	rectangular coordinates of point in tomographic plane
$g(x, y)$	"density-function" of object (linear attenuation coefficient in the case of x-ray tomography)
$g'(x, y)$	approximation to density-function
θ	angle between a given ray or group of rays
t	distance of a given ray from the origin
s	path length along a ray
$P(r, \theta)$	ray-sum or ray-projection
a	spacing between points at which density is to be determined (pixel width)
n	number of points spanning the diameter; number of ray-sums in a projection
M_{proj}	number of projections
μ	linear x-ray attenuation coefficient